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DEATHS FROM CANCER CLASSIFIED ACCORDING TO PART OF BODY AFFECTED SHOWING PER CENT. WITH DIAGNOSIS UNCERTAIN, REGISTRATION AREA OF UNITED STATES, 1914.

| Part of Body Affected.  | Number of<br>Deaths Exclud-<br>ing Those | Cases where Diagnosis was<br>Uncertain. |              |
|-------------------------|--|---|--------------|
|                         | with Diagnosis<br>Unknown.               | Number.                                 | Per Cent     |
| reast                   | 5,421                                    | 1                                       | 0            |
| kin                     | 1,957                                    | 0                                       | 0            |
| w                       | 851                                      | 1                                       | 0            |
| ongue                   | 614                                      | 0                                       | 0            |
| ip                      | 376                                      | Õ                                       | 0            |
| [outh                   | 230                                      | Õ                                       | 0            |
| agina and vulva         | 184                                      | 0                                       | 0            |
| estes                   | 121                                      | 0                                       | 0            |
| terus                   | 7,468                                    | 8                                       | 0.1          |
| arynx                   | 341                                      | 1                                       | 0.3          |
| ectum                   | 2,164                                    | 14                                      | 0.6          |
| vary and fallopian tube |  | 56                                      | 15.3         |
| ancreas                 | 567                                      | 219                                     | 38.6         |
| idneys and suprarenals  | 434                                      | 171                                     | 39.4         |
| rain                    | 98                                       | 39                                      | 39.8         |
| ladder                  | 764                                      | 305                                     | 39.9         |
| eritoneum and mesentery |  | 159                                     | 41.1         |
| ones (except jaw)       | 359                                      | $\frac{156}{314}$                       | 43.5<br>50.2 |
| rostate                 | 625                                      |   |              |
| itestines               | 3,121                                    | 1,632                                   | 52.3         |
| ung and pleura          | 278                                      | 157                                     | 56.5         |
| harynx                  | 42                                       | $\frac{24}{285}$                        | 57.1<br>58.9 |
| sophagus                |  |   |              |
| iver and gall bladder   |  | 3,421                                   | 71.6         |
| tomach                  | 9,681                                    | 6,973                                   | 72.0         |

These results furnish a test of the agreement between the classification by the American Census Bureau into cases of certain and uncertain diagnosis and the classification by Messrs. King and Newsholme into accessible and inaccessible cases. The English authorities included under accessible only cancers of the tongue, mamma, uterus, and vagina. The foregoing figures confirm this classification in every respect, but suggest that to these might well have been added cancers of other parts of the mouth than the tongue, of the skin, of the larynx, of the testes, and of the rectum. But cancers of the skin, the mouth, and the testes were not given separately in the Frankfort printed sources which they used, and they point out that, in their figures, cancers of the larynx and the rectum were so few or increased so little that a change in the classification of these would not affect the argument.

We may conclude that the dual classification of Messrs. King and Newsholme is justified by these results. A sharp line separates the accessible cases from the inaccessible and to

the former class, in addition to those placed there by Messrs. King and Newsholme, belong cancers of the mouth, larynx, skin, rectum, and testes. But the cases of inaccessible cancer may be ranged roughly in a series according to the reported uncertainty of the diagnosis from cancer of the ovary and fallopian tube at one extreme to cancer of the stomach, liver, and gall bladder at the other. If the increase of cancer is largely due to improved diagnosis and the classification of cases according to the part of the body affected is correct and complete, then the rapidity of increase in the reported rate for inaccessible cancer of any particular internal organ and the period through which it persisted would probably vary with the difficulty of diagnosis. It may be wise in future to attempt an improvement of the method introduced by Messrs. King and Newsholme in conformity with this suggestion, but for the present the American material is entirely inadequate for such a study and that from other countries cannot be easily found or interpreted with confidence.

9. Is the rate of cancer mortality lower and its increase faster among men than among women?

The evidence upon which an affirmative answer to both branches of this question is based has already been reviewed in the examination of that part of Messrs. King and Newsholme's argument (pp. 705, ff.).

10. Does the increase of cancer mortality depend upon the initial rate, being high when that rate is small and diminishing or even disappearing when it approaches or reaches a certain high rate?

If the assumption which we are trying to test is correct, if the true death rate from cancer varies only with age and all other variations in the reported rates depend upon the accuracy of those rates and so upon the accuracy of diagnosis, then the increase would be likely to depend upon and vary with the initial rate. So long as the reported rate remained far below the true rate, the increase might be constant or might vary irregularly; but when the reported rate drew near the true rate and the opportunities for further improvements of diagnosis began to disappear, the increase would inevitably slacken. On the other hand, if the spread of the disease were actual, there would be no apparent reason why the disease should

grow only towards or to some fixed limit. With the large amount of material recently brought together by the various international compilations, it has become possible to test this inference from our assumption on a scale hitherto quite out of the question.

We may test the theory first in its application to the 22 countries for which the cancer death rates have been computed from data found in *March*.\* From these rates quinquennial averages have been computed and the average increase in these per cents. has been determined, the results being given in the following table:

|   | Number of Rates                           |  | of Increase in Next<br>e Years.                            |  |
|---|---|--|--|--|
| Rates.  | Involved.                                 | Amount.  | Per Cent.  |  |
| 0-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80-89<br>90-99<br>100+ | 10<br>19<br>20<br>17<br>15<br>6<br>5<br>8 | 4.7<br>6.5<br>6.7<br>8.6<br>8.3<br>7.5<br>10.7<br>5.3<br>4.0 | 21.7<br>18.9<br>15.1<br>15.9<br>12.8<br>9.8<br>12.7<br>5.5 |  |

<sup>\*</sup> The data speak for the following countries and dates, a total of 694 years.

| Country.   | Period.  | Number of Years.   |
|--|--|--|
| England and Wales. Scotland Ireland Norway. Austria Switzerland German Empire Prussia Bavaria. Saxony Würtemberg Holland Spain Italy Serbia New South Wales Victoria. Queensland South Australia West Australia West Australia West Australia West Australia Tammania. | 1858-1910<br>1855-1910<br>1864-1910<br>1870-1910<br>1873-1910<br>1877-1910<br>1875-1910<br>1882-1910<br>1892-1910<br>1892-1910<br>1892-1910<br>1892-1910<br>1892-1910<br>1887-1910<br>1892-1910<br>1875-1910<br>1875-1910<br>1875-1910<br>1875-1910<br>1879-1910<br>1879-1910<br>1891-1910 | 53<br>56<br>47<br>41<br>38<br>34<br>19<br>36<br>23<br>19<br>19<br>36<br>11<br>24<br>19<br>36<br>47<br>32<br>32<br>20 |

The cancer death rates for each country in each year will be found in Appendix, Table XX. In some instances they will be seen to differ slightly from the rates given in Hoffman. As the March volumes received the coöperation and aid of the statistical offices of the various countries and I have found no reason to question their accuracy, I must ascribe these differences to differences in classification. I believe the early and later figures for each country in March are comparable and that is the important matter.

With two exceptions the per cent. of increase in the cancer mortality fell as the initial rate rose and after the initial rate reached 80 the average amount of increase also fell rapidly as the initial rate rose.

A similar line of argument has been applied to the larger and more trustworthy body of material in Falkenburg and Hoffman for cities of at least 100,000 population. Each 5 year rate for each city has been obtained, these rates have been arranged in order of size, the increase (or decrease) between each 5 year rate and that for the following 5 years obtained and from these figures the average increase for each group within certain limits has been found. The results have been brought together in the following summary:

| Range of Quinquennial   | Number of Rates   | Average Rate of Increase in Next<br>Five Years.                           |   |
|---|---|---|---|
| Rates.  | Involved.   | Amount.   | Per Cent.   |
| 0- 9<br>10-19<br>20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80-89<br>90-99<br>100+ | 11<br>6<br>11<br>32<br>63<br>76<br>83<br>74<br>44<br>46<br>85 | 1.0<br>8.4<br>8.2<br>6.3<br>7.2<br>7.5<br>7.1<br>9.6<br>6.4<br>4.1<br>4.9 | 19.1<br>59.4<br>31.7<br>17.9<br>16.0<br>13.6<br>11.1<br>12.9<br>7.5<br>4.3<br>4.2 |

Here, too, the average per cent. of increase falls almost from the start as the initial rate rises and the amount of increase also falls rapidly after a certain rate, in this instance 70 per 100,000, is reached.

To supplement this information for the leading countries and cities of the world, I have employed the returns of the annual volumes of American *Mortality Statistics* for the 15 year period, 1900–1914. They embrace 49 American cities, each having at least 100,000 inhabitants in 1910, while the preceding tabulation included less than half as many American cities. In this case, instead of computing quinquennial averages, the rate in 1900 has been compared with that in 1914.

|  | Number of Rates              | Average Rate of I<br>Fourteen                | ncrease in Next<br>Years.                     |
|--|------------------------------|--|---|
| Rates.   | Involved.                    | Amount.                                      | Per Cent                                      |
| 30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 3<br>5<br>10<br>18<br>6<br>7 | 42.0<br>31.3<br>31.6<br>28.4<br>21.7<br>17.7 | 116.0<br>68.7<br>58.6<br>44.6<br>29.1<br>20.4 |

Here, too, it appears that the average per cent. of increase slackens regularly and rapidly as the initial amount rises. The average amount of increase also falls regularly but the change does not appear until a certain rate, in this case 50 per 100,000, is reached.

One more effort to widen the inductive evidence has been made. In *Mortality Statistics*, 1909, the death rates from cancer in each year of the preceding decade is reported for 142 cities which in 1910 had between 20,000 and 100,000 inhabitants. These cities are so small that it is unsafe to take the death rate of a single year as a standard. To avoid the difficulty, I have compared their average cancer death rate 1900–1904 and 1905–1909 city by city. As a shorter period of time is used, the results are correspondingly less important.

| Range of Quinquennial<br>Rates. | nnial Number of Rates Involved. | Average Rate of Inc<br>Five Yea | ncrease in Next<br>ears. |
|---------------------------------|---------------------------------|---------------------------------|--------------------------|
| Rates.                          |                                 | Amount.                         | Per Cent.                |
| 0-39<br>40-59<br>60-79<br>80+   | 9<br>54<br>50<br>29             | 12<br>11<br>9<br>10             | 35<br>22<br>15<br>12     |

The preceding table shows that these smaller cities in general conform to the rule already illustrated in the rates for the foreign countries and larger foreign and American cities. In the death rate of the cities with a low initial rate the absolute increase somewhat exceeds that in cities with a high initial rate and the percentage of increase, which in my judgment is

the fairer test, is much more rapid. The results from an extensive study of all these compilations of cancer statistics corroborate each other and constitute, I believe, strong evidence in support of the theory that the apparent increase in cancer mortality is not real.

Arguments from analogy are seldom of value in matters of this sort, but one analogy, that of appendicitis, seems to deserve mention. The opinions of physicians and surgeons regarding the actual increase of this disease diverge as widely as they do regarding the increase of cancer. Yet a confident belief in the increase of appendicitis is probably less general than the same belief regarding cancer, a larger proportion of medical men being ready to ascribe the increase of appendicitis to better diagnosis. Indeed many physicians are surprised to learn that in that part of the United States for which the facts are known the deaths reported from appendicitis are multiplying as fast as deaths from cancer. The following figures show the rates and the increase of each disease in the registration states of 1900 for each year between that date and the present.

| Year. |         | Death Rate per 100,000<br>Population. |         | Ratio of Rate to that of 1900=100. |  |
|-------|---------|---------------------------------------|---------|------------------------------------|--|
|       | Cancer. | Appendicitis.                         | Cancer. | Appendicitis                       |  |
| 1900  | 63.9    | 8.8                                   | 100     | 100                                |  |
| 1901  | 65.8    | 8.8                                   | 103     | 100                                |  |
| 1902  | 65.6    | 8.8                                   | 103     | 100                                |  |
| 1903  | 69.0    | 9.6                                   | 108     | 109                                |  |
| 1904  | 70.4    | 10.3                                  | 110     | 117                                |  |
| 1905  | 72.4    | 10.2                                  | 113     | 116                                |  |
| 1906  | 73.1    | 10 3                                  | 114     | 117                                |  |
| 1907  | 75.7    | 10 2                                  | 118     | 116                                |  |
| 1908  | 76.8    | 10.3                                  | 120     | 117                                |  |
| 1909  | 79.4    | 10.8                                  | 124     | 123                                |  |
| 1910  | 83.0    | 11.1                                  | 130     | 126                                |  |
| 1911  | 83.9    | 11.3                                  | 131     | 128                                |  |
| 1912  | 85.9    | 11.0                                  | 134     | 125                                |  |
| 1913  | 88.7    | 11.6                                  | 139     | 132                                |  |
| 1914  | 89.1    | 12.2                                  | 139     | 139                                |  |
| 1915  | 91.8    | 12.3                                  | 144     | 140                                |  |

A similar but more rapid spread of appendicitis in England is indicated by the reports. The mortality from it before 1901 is unknown. "The recorded death rate has increased

<sup>\*</sup> For complete figures see Appendix, Table XXXIII.

from 38 per 1,000,000 in 1901 to 66 in 1910." How much of this increase in either country is due to the better diagnosis of a disease which always attacks an inaccessible organ, I see no present means of determining.

### SUMMARY OF RESULTS

The reported mortality from cancer is increasing in almost every part of the world, but the real mortality, if increasing at all, is certainly not increasing with equal rapidity.

To determine whether there is a real increase or to justify a denial of it, such parts of the reported increase as are not real must be measured and substracted from the total, in order to ascertain whether there is a residuum not thus to be explained away. For dealing with this problem, corrected, or standardized, death rates are likely to be misleading rather than helpful because the amount and rate of increase shown by them depend largely upon the standard used. This conclusion opens a way for using the data in the international compilations recently published, none of which are in the shape of corrected rates or can readily be converted into them.

A substitute for standardized rates as a way of measuring how much of the increase in the reported death rates from cancer is due to changes in the sex and age composition of a population during any period studied has been applied to 5 cases with the result that between one sixteenth and fourteen sixteenths and, on the average, one third, of the increase was found to be so accounted for. Evidently the part varies widely, but to assume that not less than one tenth of the reported increase of cancer mortality is due to changes in sex and age composition seems a conservative inference.

The remainder, perhaps nine tenths of the increase, must be explained by improved diagnosis, or accepted as actua.

Cancer mortality is lower but increasing faster among men than among women. Both differences may be due to the fact that among men the organs chiefly attacked by cancer are inaccessible while among women they are accessible. Hence the scope for improving the diagnosis of cancer among men was and is much wider. The argument that the Frankfort corrected rates, 1860–1890, indicate that the increase was confined to inaccessible cancer and, therefore, was probably due entirely to improved diagnosis is strengthened by compiling the Frankfort data, 1890–1913, from official manuscript sources, nearly doubling the period observed and trebling the material.

When the death return comes from anyone but a physician, the cause of death is seldom reported as cancer. Hence there is a uniform and close connection between the proportion of deaths certified by physicians and the proportion ascribed to cancer.

The reported cancer mortality is low in those Austrian provinces where medical certificates are few and higher where they are many. A similar relation is suggested in Europe when the countries are arranged in order of cancer mortality, Switzerland having the highest rate and Serbia the lowest. This is of the first importance for the present problem, because in many countries the proportion of deaths certified by physicians is rapidly rising. Even when this is not the case, the proportion of ignorant and incompetent physicians is usually decreasing, a change which would tend to the same result.

At ages when the cancer mortality is highest the proportion of deaths certified by physicians to all deaths is much lower than in early middle life. Hence at those high ages there has been more room for a change from certification by a layman to certification by a physician and probably such changes have been made on a large scale.

The increase in cancer mortality is greatest at the upper ages, when the economic value of a life is least and diagnosis a few decades ago was probably most faulty.

The facilities for diagnosing cancer by microscopical examination of the diseased tissues, etc., are probably better in cities than in the country and better in hospitals than in general practice. Hence the disproportionate increase of urban population, the multiplication of hospital beds and, in many European countries, the increase of autopsies make for greater accuracy in the diagnosis of cancer.

The deaths ascribed to ill-defined or unknown causes in the American registration states of 1900 decreased between 1900

and 1915 to less than one tenth of the initial number and the death rate still faster. If these deaths no longer ascribed to ill-defined or unknown causes were distributed over the other causes in a random way, the transfer to cancer accounted for about one ninth of the increase in the reported mortality from that disease. This is probably an understatement of the proportion to be so explained. Similar changes have occurred in many other countries.

The deaths ascribed to tumor in the American registration states of 1900 decreased between 1900 and 1915 to a little over one fourth and the rate to one fourth of the initial figure. Where deaths were reported in 1900 only by enumerators, and so negligently, the proportion ascribed to tumor to all ascribed to tumor or cancer was 7 times as great as within the registration area in the same year. The change from tumor to cancer in the registration states between 1900 and 1914 and in Massachusetts between 1855 and 1912 seems to account for one twentieth of the increase in the cancer death rate. English evidence seems to corroborate the American.

The deaths ascribed to old age in the American registration states of 1900 decreased between 1900 and 1915 to a little more than two fifths, and the rate to less than one third, of the initial figure. The transfers from old age to cancer probably account for at least one eighth of the increase of cancer mortality in those states, 1900–1915.

The measurable influences swelling the increase in the reported mortality from cancer above the true mortality, namely, the increasing proportion of elderly persons in the population, the transfers from ill-defined and unknown causes, from tumor and from old age to cancer seem to account in the American registration states for fully one half of the reported increase, leaving another half to be otherwise explained or accepted as real.

Arguments contributing to explain away this remaining half either cannot yet be stated in the quantitative form, or, if so, cannot be combined with the preceding by any process of addition.

If it should prove to be a general rule, as it apparently is true in Frankfort, that the increase is confined to mortality

from inaccessible cancer, that would go far towards establishing the view that the whole increase was only apparent. But notwithstanding fragments of evidence from other districts, this form of argument is still restricted in the main to the Frankfort material.

In cities the cancer mortality is usually higher but increasing more slowly than in country districts and that notwithstanding the larger proportion of aged persons with high cancer mortality in the country. This may be connected with the larger proportion, greater accessibility and expertness of city physicians,—factors which have brought to the city records a large number of cancer deaths which would have been reported otherwise in the country. The difference between the two regions is decreasing and will perhaps continue to decrease, as the improvement in city records slackens as they approach perfection and the improvement in the country records accelerates for a time.

Cancer mortality among Negroes in the United States is lower but increasing faster than among whites. It seems likely that this is due to marked but diminishing differences in correctness of diagnosis.

The increase in cancer mortality varies roughly with the size of the initial rate, tending, after a certain moderately high rate is reached, to decrease as the initial rate rises.

In England and the United States the increase in cancer mortality is parallel with the increase in mortality from appendicitis and both may be due entirely, as they certainly are in large degree, to the improvement of diagnosis.

The cumulative evidence that improvements in diagnosis and changes in age composition explain away more than half and perhaps all of the apparent increase in cancer mortality rebuts the presumption raised by the figures and makes it probable, although far from certain, that cancer mortality is not increasing.

# APPENDIX

### TABLE I (a)

DEATH RATE FROM CANCER CLASSIFIED BY SEX FOR CONNECTICUT, MAINE, MASSACHUSETTS, NEW HAMPSHIRE AND RHODE ISLAND, BY FIVE YEAR PERIODS, 1896-1910.

| Period.                             | Population.                            | Deaths from Cancer.        | Death Rate per 100,000<br>Population. |
|-------------------------------------|--|----------------------------|---------------------------------------|
|                                     | М                                      | ALE.                       |                                       |
| 1896-1900<br>1901-1905<br>1906-1910 | 12,462,345<br>13,539,529<br>14,863,173 | 5,755<br>7,253<br>9,136    | 46.2<br>53.6<br>61.5                  |
|                                     | Fea                                    | fale.                      |                                       |
| 1896-1900<br>1901-1905<br>1906-1910 | 12,839,093<br>13,891,724<br>15,102,303 | 11,592<br>14,016<br>16,741 | 90.3<br>100.9<br>110.9                |

<sup>(</sup>a) Data from Hoffman, pp. 456-469.

TABLE II (a)

DEATH RATE FROM CANCER CLASSIFIED BY SEX, REGISTRATION STATES AS CONSTITUTED IN 1900, (b) FOR YEARS 1900-1915.

| Year.  | Population.  | Deaths from Cancer.  | Death Rate per 100,000<br>Population,  |  |
|--|--|--|--|--|
|  | M  | ÍALE.  |  |  |
| 1900<br>1901<br>1902<br>1908<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910<br>1911<br>1912<br>1913<br>1914 | 10,004,754<br>10,222,010<br>10,439,266<br>10,666,522<br>10,873,778<br>11,001,034<br>11,308,290<br>11,525,546<br>11,742,802<br>11,960,058<br>12,177,315<br>12,394,571<br>12,611,827<br>12,829,883<br>13,046,339<br>13,263,595 | 4,703<br>4,982<br>4,950<br>5,393<br>5,631<br>5,881<br>6,136<br>6,454<br>6,606<br>7,115<br>7,626<br>7,962<br>8,101<br>8,617<br>8,915<br>9,589 | 47.0<br>48.7<br>47.4<br>50.6<br>51.8<br>53.0<br>54.3<br>56.0<br>56.3<br>59.5<br>62.6<br>64.2<br>64.2<br>67.2<br>68.3<br>72.3 |  |

#### FEMALE.

| 1900 | 9,990,458  | 8,066  | 80.7  |
|------|------------|--------|-------|
| 1901 | 10,186,856 | 8,456  | 83.0  |
| 1902 | 10,383,254 | 8,703  | 83.8  |
| 1903 | 10,579,652 | 9,257  | 87.5  |
| 1904 | 10,776,051 | 9,616  | 89.2  |
| 1905 | 10,972,450 | 10,102 | 92.1  |
| 1906 | 11,168,849 | 10,290 | 92.1  |
| 1907 | 11,365,248 | 10,870 | 95.6  |
| 1908 | 11,561,647 | 11,290 | 97.7  |
| 1909 | 11,758,046 | 11,715 | 99.6  |
| 1910 | 11,954,444 | 12,398 | 103.7 |
| 1911 | 12,150,842 | 12,634 | 104.0 |
| 1912 | 12,347,240 | 13,350 | 108.1 |
| 1913 | 12,543,638 | 13,880 | 110.7 |
| 1914 | 12,740,037 | 14,052 | 110.3 |
| 1915 | 12,936,437 | 14,472 | 111.9 |

(a) Figures from a manuscript table kindly furnished the writer by the Bureau of the Census.
 (b) Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, District of Columbia, Indiana, and Michigan.

TABLE III. (a)

DEATH RATE FROM CANCER CLASSIFIED BY SEX, FOR FOURTEEN AMERICAN CITIES, (b) BY FIVE YEAR PERIODS, 1891-1910.

| Period.  | Population.  | Deaths from Cancer.                 | Death Rate per 100,000<br>Population. |
|--|--|-------------------------------------|---------------------------------------|
|  | M  | ALE.                                |                                       |
| 1891-1895<br>1896-1900<br>1901-1905<br>1906-1910 | 12,805,336<br>16,461,766<br>20,382,334<br>23,045,672 | 5,059<br>7,543<br>10,631<br>14,245  | 39 4<br>45.8<br>52.1<br>61.8          |
|  | FE   | MALE.                               |                                       |
| 1891-1895<br>1896-1900<br>1901-1905<br>1906-1910 | 13,255,922<br>16,962,809<br>20,851,575<br>23,409,743 | 9,535<br>13,173<br>17,885<br>22,345 | 71.9<br>77.7<br>85.8<br>95.5          |

<sup>(</sup>a) Data from Hoffman, pp. 475, ff. The figures for New York City speak for Greater New York since 1898 and for Manhattan and Bronx Boroughs before that date. The cancer mortality of Brooklyn by sex 1891–1898 is unknown.

(b) Augusta, Ga., Boston, Cincinnati, Cleveland, Hartford, Nashville, New Haven, New York City, Philadelphia, Providence, Richmond, Springfield, Mass., St. Louis, Washington.

#### TABLE IV. (a)

DEATH RATE FROM CANCER CLASSIFIED BY SEX, FOR ENGLAND AND WALES, IRELAND, NORWAY, BAVARIA, ITALY, NEW SOUTH WALES, VICTORIA, SOUTH AUSTRALIA, QUEENSLAND, TASMANIA, NEW ZEALAND, BERMUDAS, AND JAMAICA, BY FIVE YEAR PERIODS, 1896-1910.

| Period.                             | Population.                               | Deaths from Cancer.           | Death Rate per 100,000<br>Population. |
|-------------------------------------|---|-------------------------------|---------------------------------------|
|                                     | М   | ALE.                          |                                       |
| 1896-1900<br>1901-1905<br>1906-1910 | 199,454,004<br>207,654,862<br>215,633,636 | 113,988<br>132,566<br>155,607 | 57.2<br>63.8<br>72.2                  |
|                                     | FE  | MALE.                         |                                       |
| 1896-1900<br>1901-1905<br>1906-1910 | 205,838,996<br>214,802,328<br>224,589,489 | 158,280<br>178,108<br>200,667 | 76.9<br>82.3<br>89.4                  |

<sup>(</sup>a) Data from Hoffman, pp. 596, ff.

TABLE V. (a)

DEATH RATE FROM CANCER CLASSIFIED BY SEX, FOR CERTAIN FOREIGN CITIES, (b) BY FIVE YEAR PERIODS, 1896-1910.

| Period.                             | Population.                            | Population. Deaths from Cancer. |                         |  |  |
|-------------------------------------|--|---------------------------------|-------------------------|--|--|
|                                     | М                                      | ALE.                            |                         |  |  |
| 1896-1900<br>1901-1905<br>1906-1910 | 34,316,038<br>36,819,660<br>39,343,588 | 27,581<br>33,243<br>39,118      | 80.4<br>90.3<br>99.4    |  |  |
|                                     | FE                                     | MALE.                           |                         |  |  |
| 1896-1900<br>1901-1905<br>1906-1910 | 37,160,633<br>40,045,459<br>42,691,732 | 39,996<br>46,070<br>51,277      | 107.6<br>115.0<br>120.1 |  |  |

 <sup>(</sup>a) Data from Hoffman, pp. 605, ff.
 (b) London, Sheffield, Liverpool, Manchester, Cities of Denmark, Bremen, Berlin, Frankfort, Munich, Paris, Budapest, Sydney, Toronto, Buenos Aires.

TABLE VI. (a)

DEATHS FROM CANCER IN FRANKFORT-ON-MAIN AT ALL AGES, CLASSIFIED BY PART OF BODY AFFECTED.

|                           | Both.                  | 688<br>73<br>73<br>73<br>82<br>82<br>82<br>82<br>848<br>1142<br>128<br>72<br>81<br>81<br>1296<br>81<br>134<br>81<br>72<br>81<br>72<br>81<br>72<br>81<br>72<br>81<br>81<br>73<br>81<br>81<br>74<br>74<br>74<br>74<br>74<br>74<br>74<br>74<br>74<br>74<br>74<br>74<br>74   | 9242  |
|---------------------------|------------------------|--|-------|
| Total.                    | Females.               | 370<br>35<br>35<br>106<br>138<br>82<br>204<br>738<br>388<br>388<br>28<br>28<br>1296<br>134<br>67   | 5616  |
|                           | Males.                 | 318<br>38<br>38<br>38<br>147<br>1212<br>587<br>77<br>480<br>34<br>53<br>168<br>2   | 3626  |
| 1913                      | Females.               | 63<br>22<br>248<br>248<br>248<br>248<br>248<br>250<br>20<br>101<br>101<br>14   | 943   |
| 1910–191                  | Males.                 | 42<br>23<br>13<br>13<br>137<br>137<br>137<br>6<br>6<br>6<br>8<br>8<br>5<br>3<br>4<br>12<br>12<br>13<br>13<br>13<br>13<br>13<br>14<br>14<br>16<br>16<br>16<br>16<br>16<br>17<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18  | 899   |
| 1906                      | Females.               | 74<br>1<br>1<br>15<br>263<br>136<br>136<br>127<br>1127<br>1127<br>1127<br>1127<br>1136<br>114<br>127<br>127<br>127<br>127<br>127<br>127<br>127<br>127<br>127<br>127  | 1037  |
| 1905-1909                 | Males.                 | 42<br>33<br>33<br>12<br>135<br>11<br>88<br>88<br>88<br>10<br>10  | 708   |
| 1904                      | Females.               | 38<br>6 6<br>11<br>177<br>198<br>93<br>93<br>198<br>11<br>108<br>188<br>728<br>728<br>728<br>13  | 803   |
| 1900–1904                 | Malea.                 | 26 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3   | 572   |
| (c)668                    | Females.               | 29<br>20<br>11<br>147<br>147<br>167<br>168<br>38<br>38<br>38<br>106<br>106<br>147<br>148<br>148<br>148<br>148<br>148<br>148<br>148<br>148<br>148<br>148  | 647   |
| 1888–1893(b) 1894–1899(c) | Males.                 | 26<br>20<br>10<br>10<br>13<br>13<br>12<br>12<br>12<br>12<br>12<br>13<br>14<br>15<br>16<br>16<br>17<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18   | 443   |
| 893(b)                    | Females.               | 32<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10   | 571   |
| 1888–1                    | Males.                 | 31<br>110<br>110<br>110<br>111<br>111<br>111<br>111<br>111<br>111<br>1   | 322   |
|                           | Females.               | 255<br>111<br>121<br>122<br>202<br>203<br>14<br>159<br>159<br>159  | 288   |
| 1881–1887                 | Males.                 | 58<br>100<br>104<br>22<br>22<br>22<br>104<br>17<br>17  | 342   |
| 1880                      | Females.               |  | 422   |
| 1874–1880                 | Males.                 | 24 8 1 1 2 1 2 2 3 8 8 8 8 1 4 4 4 7 2 5 1 4 4 4 7 5 5 1 4 4 4 7 5 5 5 1 4 4 4 7 5 5 5 1 4 4 4 7 5 5 5 1 4 4 4 7 5 5 5 1 4 4 4 7 5 5 1 4 4 4 7 5 5 1 4 4 4 7 5 5 1 4 4 4 7 5 5 1 4 4 4 7 5 5 1 4 4 4 7 5 1 4 4 7 5 1 4 7 | 268   |
| 1873                      | Females.               | 08<br>07<br>1 1 2 2 3 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6  | 338   |
| 1867–1873                 | Males.                 | 188<br>88 2446<br>198 188<br>10 10 2   | 160   |
| 1866                      | Females.               | 29<br>11<br>17<br>17<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11   | 267   |
| 1860–1866                 | Males.                 | 23 24 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2  | 143   |
|                           | Part of Body Affected. | Position undefined Nervous system Heart Heart Tongue Esophagus and pharynx Stomach Interiand refer-peritoneal Liver Liver Foster, urinary bladder and Prostate, urinary bladder and Prostate, urinary bladder and Prostate, urinary Badder and Mamma Mamma Bone Bone Mamma Bone  | Total |

(a) Figures from 1860 to 1887, inclusive, derived from King and Newsholme, Table XIII. Figures for later years derived from manuscript tables from the Frankfort (b) Omitting the year 1890, for which the figures were not available, (c) Omitting the year 1896, for the above reason.

TABLE VII. (a) DEATHS FROM CANCER IN FRANKFORT-ON-MAIN OVER TWENTY YEARS OF AGE.

|                   |                                 | 1860                                 | -1866                                | 1867                                 | -1873                                | 1874                                 | -1880                                 | 1881                                 | -1887                                     | 1888-1                                | .893 (b)                                 |
|-------------------|---------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|---|---------------------------------------|--|
| Ag                | ge.                             | Males.                               | Females.                             | Males.                               | Females.                             | Males.                               | Females.                              | Males.                               | Females.                                  | Males.                                | Females.                                 |
| 40-<br>50-<br>60- | -39<br>-49<br>-59<br>-69<br>-79 | 3<br>10<br>18<br>50<br>36<br>19<br>4 | 5<br>13<br>51<br>86<br>70<br>35<br>4 | 5<br>17<br>20<br>40<br>47<br>26<br>3 | 3<br>32<br>65<br>95<br>80<br>54<br>5 | 7<br>19<br>47<br>60<br>79<br>43<br>5 | 5<br>40<br>92<br>112<br>99<br>67<br>5 | 6<br>34<br>57<br>94<br>88<br>46<br>5 | 15<br>50<br>123<br>143<br>151<br>75<br>20 | 1<br>15<br>66<br>106<br>80<br>47<br>6 | 9<br>53<br>101<br>166<br>153<br>66<br>17 |
| Tota              | ıl                              | 140                                  | 264                                  | 158                                  | 334                                  | 260                                  | 420                                   | 330                                  | 577                                       | 321                                   | 565                                      |
|                   | 1894-1                          | 899 (c)                              | 1900                                 | -1904                                | 1905                                 | -1909                                | 1910                                  | -1913                                |   | Total.                                |  |
| Age.              | Males.                          | Females.                             | Males.                               | Females                              | Males.                               | Females.                             | Males.                                | Females.                             | Males.                                    | Females.                              | Both.                                    |

|   | 1094-1                                  | 099 (0)                                  | 1900                                    | -1904                                      | 1900                                     | -1909                                      | 1910                                     | -1919                                     |   | Total.   |   |
|---|---|--|---|--|--|--|--|---|---|--|---|
| Age.  | Males.                                  | Females.                                 | Males.                                  | Females                                    | Males.                                   | Females.                                   | Males.                                   | Females.                                  | Males.  | Females.   | Both.   |
| 20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 8<br>26<br>68<br>138<br>123<br>62<br>10 | 5<br>48<br>130<br>188<br>175<br>84<br>14 | 9<br>41<br>73<br>148<br>189<br>90<br>17 | 13<br>59<br>130<br>238<br>215<br>121<br>25 | 12<br>25<br>88<br>208<br>255<br>95<br>15 | 12<br>55<br>179<br>284<br>298<br>166<br>34 | 11<br>41<br>99<br>145<br>238<br>118<br>7 | 9<br>70<br>160<br>246<br>260<br>158<br>32 | 62<br>228<br>536<br>989<br>1,135<br>546<br>72 | 76<br>420<br>1,031<br>1,558<br>1,501<br>826<br>156 | 138<br>648<br>1,567<br>2,547<br>2,636<br>1,372<br>228 |
| Total   | 435                                     | 644                                      | 567                                     | 801  | 698                                      | 1,028                                      | 659                                      | 935                                       | 3,568   | 5,568  | 9,136   |

<sup>(</sup>a) Figures from 1860 to 1887, inclusive, derived from King and Newsholme, Table XIV. Figures for later years derived from manuscript tables from the Frankfort Statistical Office.

(b) Omitting the year 1890, for which the figures were not available.

#### TABLE VIII. (a)

DEATHS FROM CANCER IN FRANKFORT-ON-MAIN OVER TWENTY YEARS OF AGE CLASSIFIED INTO ACCESSIBLE CANCER, INACCESSIBLE CANCER AND CANCER IN INDEFENDED POSITION

| CER  | , 11                         | U                             | NDE              | FIL                                  | ED     | PU                                   | 21.1             | TON   | ١.                               |  |                        |  |                       |   |                      |   |                           |  |        |          |       |
|--|------------------------------|-------------------------------|------------------|--------------------------------------|--------|--------------------------------------|------------------|---|----------------------------------|--|------------------------|--|-----------------------|---|----------------------|---|---------------------------|--|--------|----------|-------|
|  |                              | 6 <b>0</b> ⊢<br>666           |                  | 37-<br>373                           |        | 74-<br>80                            | 18<br>18         | 81-<br>87                                   | 188<br>189                       | 38–<br>3 (b)   | 189<br>1899            |  | 190<br>19             | )0-<br>04                                   | 190<br>19            | )5–<br>09                                   | 191<br>19                 | 10-<br>13                                    |        | Total    |       |
| Age.   | Males.                       | Females.                      | Males.           | Females.                             | Males. | Females.                             | Males.           | Females.                                    | Males.                           | Females.   | Males.                 | Females.                               | Males.                | Females.                                    | Males.               | Females.                                    | Males.                    | Females.                                     | Males. | Females. | Both. |
|  | Accessible Cancer.           |                               |                  |                                      |        |                                      |                  |   |                                  |  |                        |  |                       |   |                      |   |                           |  |        |          |       |
| 20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+<br>Total | $\frac{6}{3}$ $\frac{1}{10}$ | 1<br>6<br>36<br>40<br>25<br>7 | 1<br>2<br>6<br>— | 19<br>28<br>51<br>30<br>14<br>1<br>1 | 1      | 21<br>53<br>51<br>46<br>14<br>1<br>1 | 1<br>4<br>1<br>1 | 4<br>26<br>63<br>62<br>34<br>13<br>4<br>206 | 1<br>7<br>4<br>2<br>1<br>1<br>15 | $ \begin{array}{r} 1\\30\\55\\71\\53\\15\\4\\\hline229 \end{array} $ | 4<br>7<br>3<br>•<br>14 | 20<br>53<br>71<br>48<br>15<br>4<br>211 | 1<br>5<br>2<br>2<br>2 | 5<br>29<br>59<br>87<br>58<br>22<br>6<br>266 | 5<br>6<br>5<br>2<br> | 4<br>27<br>70<br>96<br>72<br>27<br>9<br>305 | 5<br>7<br>6<br>4<br>2<br> | 4<br>30<br>78<br>69<br>71<br>33<br>10<br>295 |        | 160      | 42    |

#### INACCESSIBLE CANCER.

| 20-29<br>30-39<br>40-49<br>50-59                          | 1<br>4<br>14<br>34                   | 4<br>6<br>9<br>36 | 3<br>13<br>15<br>35        | 3<br>11<br>33<br>34             | 6<br>17<br>40<br>50 | 5<br>15<br>36<br>54 | 1<br>21<br>44<br>80                      |                 | 11<br>51<br>93                  | 8<br>20<br>41<br>91   | 6<br>22<br>63<br>122       | 5<br>27<br>72                  | 39                              | 7<br>26<br>66                         | 11<br>23<br>77              | 7<br>25<br>96                      | 10<br>37<br>89 | 187                           | 46<br>187<br>460                             | 183<br>469<br>864               | 99<br>370<br>929<br>1744                         |
|---|--------------------------------------|-------------------|----------------------------|---------------------------------|---------------------|---------------------|--|-----------------|---------------------------------|---|----------------------------|--------------------------------|---------------------------------|---------------------------------------|-----------------------------|------------------------------------|----------------|-------------------------------|--|---------------------------------|--|
| 60–69<br>70–79<br>80+                                     | 27<br>16<br>1                        | 39<br>23<br>4     | 38<br>25<br>3              | 44<br>36<br>3                   |                     | 50<br>50<br>4       | 78<br>42<br>3                            | 104<br>59<br>14 | 75<br>43<br>6                   | 94<br>45<br>11  | 118<br>59<br>10            | 67<br>10                       | 84<br>15                        | 93                                    | 89<br>15                    |                                    | 107<br>4       | $ \frac{17.5}{120} $          | 497<br>61                                    |                                 | 2041<br>1123<br>170                              |
| Total.  | 97                                   | 121               | 132                        | 164                             | 220                 | 214                 | 269                                      | 318             | 279                             | 310   | 400                        | 406                            | 536                             | 506                                   | 648                         | 664                                | 605            | 587                           | 3186   | 3290                            | 6476   |
|   |                                      |                   |                            |                                 |                     |                     | C  | NCE             | R, Po                           | OSITIC  | n Ur                       | NDEFI                          | NED                             |                                       |                             |                                    |                |                               |  |                                 |  |
| 20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 2<br>6<br>4<br>10<br>6<br>3<br>2<br> | 6<br>5<br>——      | 2<br>3<br>3<br>5<br>3<br>1 | 2<br>4<br>10<br>6<br>4<br>1<br> | 7                   | 3<br>3<br>—         | 5<br>12<br>9<br>13<br>10<br>3<br>2<br>54 | 3<br>2          | 1<br>3<br>8<br>9<br>3<br>3<br>3 | 3<br>5<br>4<br>6<br>6<br>2<br>——————————————————————————————— | 2<br>4<br>1<br>9<br>2<br>3 | 1<br>5<br>9<br>10<br>2<br>———— | 2<br>5<br>2<br>5<br>4<br>2<br>2 | 1<br>4<br>5<br>5<br>6<br>6<br>2<br>29 | 1<br>2<br>6<br>11<br>8<br>4 | 1<br>3<br>13<br>21<br>14<br>6<br>1 | 8<br>7<br>1    | 1<br>8<br>12<br>13<br>14<br>5 | 15<br>38<br>48<br>73<br>53<br>38<br>8<br>273 | 29<br>67<br>96<br>78<br>40<br>8 | 19<br>67<br>115<br>169<br>131<br>78<br>16<br>595 |

<sup>(</sup>i) Figure of the 1800 to 1887, but in its defined from King and Visibility. Table XIV continued. Figure of the proceeding of the proceding of

TABLE IX. (a) POPULATION AT RISK IN FRANKFORT-ON-MAIN.

| Age.   | 1860-<br>1866   | 1867-<br>1873   | 1874-<br>1880  | 1881-<br>1887   | 1888-<br>1893 (b)                                    | 1894–<br>1899 (c)                                      | 1900-<br>1904   | 1905-<br>1909  | 1910-<br>1913  |  |
|--|---|---|--|---|--|--|---|--|--|--|
|  | Males.  |   |  |   |  |  |   |  |  |  |
| 20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+<br>Total | 90,404<br>42,294<br>29,201<br>18,924<br>10,850<br>3,700<br>617              | 76,174<br>49,166<br>30,964<br>30,036<br>11,556<br>4,228<br>750<br>192,874 | 90,222<br>69,410<br>40,993<br>23,860<br>12,918<br>5,116<br>919<br>243,438    | 96,183<br>87,654<br>57,471<br>30,224<br>16,158<br>6,292<br>1,137<br>295,119 | 97,888 70,964 51,794 29,154 13,586 5,109 842 269,337 | 93,702<br>65,878<br>41,070<br>18,124                   | 124,430<br>77,958<br>51,297<br>24,008<br>7,898<br>1,319 | 192,245<br>154,841<br>93,107<br>57,152<br>29,540<br>9,240<br>1,454<br>537,579  | 169,211<br>158,092<br>97,586<br>53,499<br>29,912<br>9,984<br>1,381             |  |
|  |   |   |  | F   | EMALES.  | - "  |   |  |  |  |
| 20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+          | 74,536<br>40,880<br>27,260<br>19,645<br>12,172<br>4,272<br>1,110<br>179,875 | 85,365<br>50,361<br>31,019<br>21,320<br>13,881<br>5,288<br>944<br>208,178 | 108,009<br>70,137<br>41,705<br>26,813<br>16,524<br>7,008<br>1,077<br>271,273 | 91,459<br>60,116<br>34,575<br>21,439<br>8,957<br>1,904                      | 54,239<br>33,308                                     | 99,789<br>69,218<br>46,071<br>24,286<br>9,975<br>1,879 | 82,207<br>56,964<br>31,934<br>11,951<br>2,296           | 213,162<br>154,969<br>97,156<br>64,094<br>38,166<br>14,077<br>2,630<br>584,254 | 192,782<br>156,157<br>98,545<br>61,067<br>37,998<br>14,508<br>2,490<br>563,547 |  |

<sup>(</sup>a) Figures from 1860 to 1887, inclusive, derived from King and Newsholme, Table XV. Figures for later years derived from German census report.
(b) Omitting the year 1890, for which the figures were not available.
(c) Omitting the year 1896, for which the figures were not available.

TABLE X. (a)

FRANKFORT. ANNUAL DEATHS FROM CANCER IN 1,000,000 LIVING, AT LEAST TWENTY-FIVE YEARS OF AGE. POPULATION DISTRIBUTED IN AGE GROUPS ACCORDING TO ENGLISH LIFE TABLE NO. 3-PERSONS.

| Period.   | Accessible.   | Inaccessible.   | Position Undefined.   | Total.  |
|---|---|---|---|---|
|   |   | Males.  |   |   |
| 1860-1866<br>1867-1873<br>1874-1880<br>1881-1887<br>1888-1893 (b)<br>1894-1899 (c)<br>1900-1904<br>1905-1909<br>1910-1913 | 126<br>88<br>14<br>35<br>91<br>66<br>51<br>68<br>119                | 1,118<br>1,421<br>1,913<br>1,865<br>2,289<br>2,489<br>2,742<br>2,791<br>2,522 | 359<br>137<br>363<br>305<br>171<br>104<br>118<br>119        | 1,603<br>1,646<br>2,290<br>2,205<br>2,551<br>2,659<br>2,911<br>2,981<br>2,771 |
|   |   | Females.  |   |   |
| 1860-1866<br>1867-1873<br>1874-1880<br>1881-1887<br>1888-1893 (b)<br>1894-1899 (c)<br>1900-1904<br>1905-1909<br>1910-1913 | 1,081<br>1,214<br>1,220<br>981<br>1,275<br>903<br>914<br>925<br>913 | 1,323<br>1,540<br>1,588<br>1,820<br>1,959<br>1,936<br>2,013<br>2,311<br>2,057 | 253<br>254<br>131<br>272<br>174<br>122<br>115<br>180<br>152 | 2,697<br>3,008<br>2,939<br>3,073<br>3,408<br>2,961<br>3,042<br>3,416<br>3,122 |

<sup>(</sup>a) Figures from 1960 to 1987, inclusive, Actived from King and Nearly Inc. Table XVI. Figures for latery and heirs afford meaning the action one from the Sun Continue the year 1890, for with a fine framework to a subsidie.

TABLE XI.

### STANDARD MILLION, ENGLAND AND WALES, AS SHOWN BY ENGLISH LIFE TABLE NO. 3 AND BY CENSUS OF 1881.

| Age Period.   | English Life Table No. 3.  | Census of 1881.  |
|---|--|--|
|   | Males.   |  |
| Under 5 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74 75-79 80-84 85-89 90-94 | 49,630<br>42,710<br>41,210<br>40,150<br>38,700<br>36,980<br>35,190<br>33,300<br>31,250<br>28,990<br>26,430<br>23,470<br>20,070<br>16,110<br>11,670<br>7,230<br>3,590<br>1,320<br>330<br>50 | 67,669<br>60,389<br>53,985<br>48,828<br>42,825<br>37,238<br>32,890<br>29,005<br>25,493<br>21,640<br>18,140<br>15,550<br>12,268<br>8,946<br>6,064<br>3,541<br>1,503<br>448<br>101 |

| н, | r N | ΓA' | ۲.5 | 22. |
|----|-----|-----|-----|-----|

| Under 5 | 51,000  | 67,882  |
|---------|---------|---------|
| 5-9     | 44,320  | 60,783  |
| 10-14   | 42,740  | 53,826  |
|         | 41,570  | 49,239  |
| 15-19   |         | 46,810  |
| 20-24   | 39,990  | 40,010  |
| 25-29   | 38,140  | 40,465  |
| 30-34   | 36,210  | 35,455  |
| 35-39   | 34,190  | 31,190  |
| 40-44   | 32,100  | 27,439  |
| 45-49   | 29,920  | 23,660  |
| 50-54   | 27,630  | 20,236  |
| 55-59   | 25,010  | 17,309  |
| 60-64   | 21,790  | 13,935  |
| 65-69   | 17,910  | 10,507  |
| 70-74   | 13,400  | 7,301   |
| 75-79   | 8,700   | 4,431   |
| 80-84   | 4,590   | 2,000   |
|         |         | 670     |
| 85-89   | 1,820   |         |
| 90-94   | 500     | . 197   |
| 95+     | 90      | 37      |
|         | 511,620 | 513,372 |

TABLE XII.

STANDARDIZED CANCER DEATH RATES FOR FRANKFORT, BASED ON ENGLISH LIFE TABLE NO. 3 AND ON ENGLISH CENSUS OF 1881.

|   | Standard   | Million.   | Cancer Death  | Computed Car                                 | Computed Cancer Deaths.                      |  |  |  |
|---|--|--|---|--|--|--|--|--|
| Age.  | English Life<br>Table No. 3.   | English Census<br>of 1881.   | Rate<br>Frankfort<br>1860–66. (a)                               | English Life<br>Table No. 3.                 | English<br>Census of<br>1881.                |  |  |  |
| ······································                                |  | Males.   |   |  |  |  |  |  |
| Under 20<br>20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 173,700<br>75,680<br>68,490<br>60,240<br>49,900<br>36,180<br>18,900<br>5,290 | 230,871<br>80,063<br>61,985<br>47,133<br>33,690<br>21,214<br>9,605<br>2,067  | 2.7<br>3.5<br>20.5<br>53.1<br>225.1<br>278.7<br>453.9<br>-514.8 | 5<br>3<br>14<br>32<br>112<br>101<br>86<br>27 | 6<br>3<br>13<br>25<br>76<br>59<br>44<br>11   |  |  |  |
|   |  | Females  | •   |  |  |  |  |  |
| Under 20<br>20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 179,630<br>78,130<br>70,400<br>62,020<br>52,640<br>39,700<br>22,100<br>7,000 | 231,730<br>87,275<br>66,645<br>51,099<br>37,545<br>24,442<br>11,732<br>2,904 | 3.0<br>6.0<br>27.0<br>156.2<br>372.4<br>477.8<br>693.5<br>332.3 | 5<br>19<br>97<br>196<br>190<br>153<br>23     | 7<br>5<br>18<br>80<br>140<br>117<br>81<br>10 |  |  |  |
| Both sexes  | 1,000,000  | 1,000,000  |   | 1,068  | 695  |  |  |  |

<sup>(</sup>a) Computed, using census population of Frankfort, 1864, from Stat. d. deut. Reichs, "Beiträge zur Statistik d. St. Frankfurt-am-Main," II (1866), pt. I, Table XIX, and deaths from King and Newsholme, p. 240, supplemented as to deaths under 20 from personal investigation.

TABLE XIII.
STANDARDIZED CANCER DEATH RATES FOR FRANKFORT, 1888-89, BASED ON ENG-

| LISH L  |  | O. 3 AND ON E  |   |   | D ON ENG                                      |  |
|---|--|--|---|---|---|--|
|   | Standar  | d Million.   | Cancer Death  | Computed Cancer Deaths.                   |   |  |
| Age.  | English Life<br>Table No. 3  | English Census<br>of 1881.   | Rate per<br>100,000 Popu-<br>lation, Frank-<br>fort, 1888-89. (a) | English Life<br>Table No. 3.              | English<br>Census of<br>1881.                 |  |
|   |  | Males.   |   |   |   |  |
| Under 20<br>20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 173,700<br>75,680<br>68,490<br>60,240<br>49,900<br>36,180<br>18,900<br>5,290 | 230,871<br>80,063<br>61,985<br>47,133<br>33,690<br>21,214<br>9,605<br>2,067  | 2.7<br>14.8<br>132.6<br>362.0<br>466.2<br>821.4<br>625.0          | 2<br>10<br>80<br>180<br>169<br>155<br>33  | 2<br>9<br>62<br>122<br>99<br>79<br>13         |  |
|   |  | FEMALES  | · .   |   |   |  |
| Under 20<br>20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 179,630<br>78,130<br>70,400<br>62,020<br>52,640<br>39,700<br>22,100<br>7,000 | 231,730<br>87,275<br>66,645<br>51,099<br>37,545<br>24,442<br>11,732<br>2,904 | 3.0<br>6.7<br>68.6<br>200.0<br>493.4<br>887.1<br>815.8<br>937.5   | 5<br>48<br>124<br>260<br>352<br>180<br>66 | 7<br>6<br>46<br>102<br>185<br>217<br>96<br>27 |  |
| Both sexes  | 1,000,000  | 1,000,000  |   | 1,669                                     | 1,072   |  |

<sup>(</sup>a) The death rates from cancer 1888-89 were computed by using the nor ulation of Frankfort December 1, 1889 (estimated by arithmetical method from population of 1885 and 1840 or 1.1e argume nor all deaths from cancer 1888-89, derived from King and Newsholm , Table XIV (this Appendix, Table VII).

TABLE XIV. (a) DEATH RATE FROM CANCER IN THE REGISTRATION STATES OF 1900 IN THE YEARS 1900–1910.

| Year.  | Population.  | Deaths from Cancer.  | Death Rate per 100,000<br>Population.   |
|--|--|--|---|
| 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909 | 19,995,212<br>20,408,866<br>20,822,520<br>21,236,174<br>21,649,829<br>22,063,484<br>22,477,139<br>22,890,794<br>23,304,449<br>23,718,104<br>24,131,759 | 12,769<br>13,438<br>13,653<br>14,650<br>15,247<br>15,983<br>16,426<br>17,324<br>17,896<br>18,830<br>20,024 | 63.9<br>65.8<br>65.6<br>69.0<br>70.4<br>72.4<br>73.1<br>757<br>76.8<br>79.4<br>83.0 |

 Increase per 100,000 population, 1900–1910.
 19.1

 Per cent. increase, 1900–1910.
 29.9

<sup>(</sup>a) Data kindly furnished the writer in manuscript by the Bureau of the Census.

TABLE XV. STANDARDIZED CANCER DEATH RATE 1910 IN REGISTRATION STATES AS CON-STITUTED IN 1900. (a)

|   |   | Males.   |   |   | Females.  |  |
|---|---|--|---|---|---|--|
| Age Period.   | Population<br>1900.   | Cancer Death Rate per 100,000 Population 1910.                                     | Estimated<br>Deaths<br>1910.  | Population 1900.  | Cancer<br>Death Rate<br>per 100,000<br>Population<br>1910.                          | Estimated<br>Deaths<br>1910.   |
| Under 5 5-9 10-14 15-19 20-24 25-34 35-44 45-54 55-64 65-74 75+ | 1,048,490<br>1,001,754<br>915,572<br>885,871<br>920,072<br>1,751,535<br>1,408,030<br>966,630<br>620,054<br>343,391<br>143,355 | 4.1<br>1.5<br>1.8<br>2.9<br>4.9<br>9.5<br>33.0<br>106.7<br>272.0<br>493.6<br>693.7 | 43<br>15<br>16<br>26<br>45<br>166<br>465<br>1,031<br>1,686<br>1,695 | 1,031,197<br>988,707<br>909,552<br>926,057<br>993,194<br>1,730,952<br>1,325,608<br>928,077<br>632,720<br>362,034<br>162,360 | 2.8<br>1.2<br>1.4<br>3.5<br>4.1<br>21.9<br>88.9<br>230.7<br>411.3<br>616.2<br>867.8 | 29<br>12<br>13<br>32<br>41<br>379<br>1,178<br>2,141<br>2,602<br>2,231<br>1,409 |
| Total   | 10,004,754  |  | 6,182   | 9,990,458   |   | 10,067   |

Estimated deaths. Standardized death rate....

(a) Population 1900 and cancer death rates 1910 kindly furnished the writer by the Bureau of the Census.

TABLE XVI. STANDARDIZED CANCER DEATH RATE, ENGLAND AND WALES, 1911.

|   |  | Males.   |   |  | Females.   |  |
|---|--|--|---|--|--|--|
| Age Period.   | Population (a) 1901.   | Cancer<br>Death Rate<br>per 100,000<br>Popula-<br>tion (b)<br>1911.  | Estimated<br>Deaths<br>1911.  | Population (a) 1901.   | Cancer<br>Death Rate<br>per 100,000<br>Popula-<br>tion (b)<br>1911.  | Estimated<br>Deaths<br>1911.   |
| Under 5 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74 75-79 80-84 85+ | 1,855,361<br>1,738,993<br>1,670,970<br>1,607,522<br>1,472,644<br>1,328,288<br>1,157,666<br>1,034,469<br>897,484<br>759,955<br>636,254<br>497,498<br>410,447<br>282,403<br>195,465<br>113,096<br>52,137<br>17,971 | 3.3<br>2.8<br>2.2<br>3.6<br>6.3<br>8.5<br>14.0<br>27.4<br>27.4<br>127.2<br>224.3<br>350.0<br>523.7<br>695,6<br>868.4<br>947.0<br>738.9 | 61<br>49<br>37<br>58<br>93<br>113<br>162<br>283<br>528<br>967<br>1,427<br>1,741<br>2,150<br>1,964<br>1,697<br>1,071 | 1,861,347<br>1,748,298<br>1,670,770<br>1,638,621<br>1,648,278<br>1,496,221<br>1,1273,665<br>1,110,924<br>953,138<br>813,233<br>692,749<br>480,226<br>347,270<br>250,868<br>151,384<br>76,631<br>30,528 | 2.6<br>1.8<br>1.3<br>2.7<br>4.4<br>8.0<br>25.0<br>56.8<br>113.3<br>191.8<br>264.1<br>389.4<br>507.2<br>622.6<br>808.1<br>889.0<br>889.3<br>808.4 | 48<br>31<br>22<br>44<br>47<br>123<br>120<br>318<br>631<br>1,080<br>1,559<br>2,161<br>2,436<br>2,162<br>2,027<br>1,346<br>62<br>247 |
| Total   | 15,728,613   |  | 12,978  | 16,799,230   |  | 16,796   |

Estimated deaths.
Standardized death rate.

<sup>(</sup>a) From Census of England and Webs. 1901. Summer: Tellio, v. 139. (b) Computed, using population for 1911 from ( . . . . . . . . . . . and Wales, 1911, VII, pp. 1, 2; and deaths for 1911 from 74th Ann. Rep. of Rep. of Rep. 1911, 1, 201.

TABLE XVII.
STANDARDIZED CANCER DEATH RATE OF ENGLAND AND WALES, 1891-1900.

|   |   | Males.   |  | Females.  |   |  |  |
|---|---|--|--|---|---|--|--|
| Age Period.   | Standard<br>Million<br>1881–1890.   | Cancer<br>Death Rate<br>per 100,000<br>Population<br>1891-1900.                    | Estimated<br>Deaths<br>1891–1900.                        | Standard<br>Million<br>1881–1890.   | Cancer Death Rate per 100,000 Population 1891–1900.                                 | Estimated<br>Deaths<br>1891–1900.                            |  |
| Under 5 5-9 10-14 15-19 20-24 25-34 35-44 45-54 55-64 65-74 75+ | 64,122<br>59,333<br>54,806<br>49,720<br>42,922<br>71,131<br>55,095<br>40,472<br>27,151<br>15,184<br>5,591 | 3.3<br>1.8<br>1.9<br>3.2<br>5.1<br>9.9<br>38.4<br>130.0<br>316.0<br>532.5<br>582.4 | 2<br>1<br>1<br>2<br>2<br>7<br>21<br>53<br>86<br>81<br>33 | 64,557<br>59,673<br>54,765<br>50,287<br>47,564<br>77,499<br>58,944<br>44,478<br>30,893<br>18,326<br>7,487 | 2.8<br>1.4<br>1.4<br>2.7<br>3.9<br>17.5<br>89.1<br>232.3<br>409.9<br>588.9<br>637.7 | 2<br>1<br>1<br>1<br>2<br>14<br>53<br>103<br>127<br>107<br>48 |  |

TABLE XVIII.
STANDARDIZED CANCER DEATH RATE, NEW YORK CITY, 1910.

|   |   | Males.  |   | Females.   |  |  |  |
|---|---|---|---|--|--|--|--|
| Age Period.   | Population 1900.  | Cancer<br>Death Rate<br>per 100,000<br>Popula-<br>tion (a)<br>1910.                 | , Estimated<br>Deaths<br>1910.                                  | Population<br>1900.  | Cancer<br>Death Rate<br>per 100,000<br>Popula-<br>tion (a)<br>1910.                  | Estimated<br>Deaths<br>1910.                                   |  |
| Under 5 5-9 10-14 15-19 20-24 25-34 35-44 45-54 55-64 65-74 75+ | 199,683<br>177,591<br>149,906<br>140,670<br>161,988<br>343,178<br>261,095<br>146,495<br>78,692<br>32,915<br>9,799 | 7.0<br>0.9<br>1.4<br>4.1<br>9.9<br>12.4<br>44.3<br>172.9<br>398.4<br>733.2<br>681.4 | 14<br>2<br>2<br>6<br>16<br>43<br>116<br>253<br>314<br>241<br>67 | 197,604<br>177,156<br>151,358<br>162,081<br>192,853<br>338,175<br>232,950<br>141,837<br>82,591<br>39,314<br>13,835 | 2.8<br>2.3<br>1.4<br>3.3<br>2.8<br>26.4<br>107.9<br>281.4<br>497.9<br>665.0<br>884.6 | 6<br>4<br>2<br>5<br>5<br>89<br>251<br>399<br>411<br>261<br>122 |  |

 Total population
 3,431,766

 Estimated deaths
 2,629

 Standardized death rate
 76.6

<sup>(</sup>a) Standard million from Supp. to 65th Ann. Rep. of Registrar-General (1891–1900), p. xi; average annual deaths per million, Ibid., p. cxcv.

<sup>(</sup>a) Death rates kindly furnished in manuscript by Bureau of the Census.

TABLE XIX. STANDARDIZED CANCER DEATH RATE, LONDON, (a) 1911.

|   | !  | Males.  |   |   | Females.   |   |
|---|--|---|---|---|--|---|
| Age Period.   | Population<br>1901. (b)  | Cancer Death Rate per 100,000 Popula- tion (c) 1911.  | Estimated<br>Deaths<br>1911.  | Population<br>1901. (b)   | Cancer<br>Death Rate<br>per 100,000<br>Popula-<br>tion (c)<br>1911.  | Estimated<br>Deaths<br>1911.  |
| Under 15<br>15-24<br>25-34<br>35-39<br>40-44<br>45-49<br>50-54<br>55-59<br>60-64<br>65-69<br>70-74<br>75-79<br>80-84<br>85+ | 675,970<br>426,271<br>371,418<br>150,706<br>129,992<br>107,320<br>87,913<br>65,784<br>52,932<br>33,341<br>21,662<br>11,816<br>5,218<br>1,742 | 3.5<br>5.5<br>11.8<br>30.4<br>64.0<br>164.9<br>279.5<br>439.3<br>664.3<br>855.0<br>1,130.3<br>1,104.1<br>993.6<br>624.2 | 24<br>23<br>44<br>46<br>83<br>177<br>246<br>289<br>352<br>285<br>245<br>130<br>52<br>11 | 681,904<br>493,478<br>497,763<br>168,882<br>141,486<br>119,010<br>99,284<br>75,821<br>65,153<br>45,125<br>32,647<br>19,612<br>10,200<br>4,091 | 2.3<br>3.8<br>16.0<br>60.2<br>128.0<br>170.5<br>268.1<br>392.5<br>508.2<br>591.9<br>764.7<br>942.7<br>963.6<br>997.3 | 16<br>19<br>70<br>102<br>181<br>203<br>266<br>298<br>331<br>267<br>250<br>185<br>98<br>41 |
| Total   | 2,142,085  |   | 2,007   | 2,394,456   |  | 2,327   |

| Total population        | 4,536,541 |
|-------------------------|-----------|
| Estimated deaths        | 4,334     |
| Standardized death rate | 95.5      |

#### TABLE XX. (a)

#### DEATH RATES FROM CANCER IN VARIOUS EUROPEAN COUNTRIES AND THE AUSTRALIAN COLONIES.

| Year.  | Death Rate<br>from Cancer<br>per 100,000<br>Population.  | Year.  | Death Rate<br>from Cancer<br>per 100,000<br>Population.  | Year.  | Death Rate<br>from Cancer<br>per 100,000<br>Population.  | Year.  | Death Rate<br>from Cancer<br>per 100,000<br>Population.                              |
|--|--|--|--|--|--|--|--|
|  |  |  | England a  | ND WALES   | s. (b)   |  |  |
| 1858<br>1859<br>1860<br>1861<br>1862<br>1863<br>1864<br>1865<br>1866<br>1867<br>1868<br>1869<br>1870 | 32.9<br>33.7<br>34.1<br>36.0<br>36.1<br>36.1<br>38.6<br>37.2<br>38.5<br>39.2<br>40.3<br>41.7<br>42.4 | 1872<br>1873<br>1874<br>1875<br>1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882<br>1883<br>1884<br>1885 | 43.1<br>44.4<br>46.1<br>47.1<br>47.3<br>48.8<br>50.3<br>50.1<br>51.4<br>52.0<br>53.4<br>54.9<br>56.5<br>57.2 | 1886<br>1887<br>1888<br>1889<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899 | 59.0<br>61.5<br>62.2<br>65.6<br>67.6<br>69.2<br>71.0<br>71.2<br>75.3<br>76.4<br>78.5<br>79.9<br>82.6 | 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910 | 83.9<br>84.3<br>84.6<br>87.4<br>88.2<br>88.9<br>92.2<br>91.5<br>93.3<br>96.1<br>96.7 |

<sup>(</sup>a) Administrative, or Registration. County. On From Cersica, Letter is a collision Windows, Some any Tables, pp. 148-149. Confirm <math>Cersica, Letter is Register-Cersical (1991), p. 1xxxi.

 <sup>(</sup>a) Computed from figures for population and deaths in March, Vols. I and II.
 (b) Figures going back to 1838 may be found in the successive Annual Reports of the Registrar-General.

| <b>6</b> 44-4  | Scotland.  |  |  |  |   |  |  |  |  |
|--|--|--|--|--|---|--|--|--|--|
| 1855<br>1856<br>1857<br>1858<br>1859<br>1860<br>1861<br>1862<br>1863<br>1864<br>1865<br>1866<br>1867<br>1868 | 29. 2<br>30. 3<br>31. 8<br>33. 0<br>33. 2<br>38. 0<br>37. 2<br>41. 2<br>39. 5<br>41. 3<br>39. 7<br>40. 5 | 1869<br>1870<br>1871<br>1872<br>1873<br>1874<br>1875<br>1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882 | 43.1<br>41.1<br>42.5<br>45.8<br>44.7<br>47.6<br>47.7<br>48.2<br>50.4<br>49.9<br>50.5<br>51.1<br>54.5                 | 1883<br>1884<br>1885<br>1886<br>1887<br>1888<br>1889<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895<br>1896 | 53. 6<br>55. 1<br>56. 3<br>59. 5<br>60. 6<br>62. 1<br>66. 5<br>67. 0<br>66. 6<br>68. 3<br>70. 3<br>71. 1<br>70. 8 | 1897<br>1898<br>1899<br>1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910 | 74.7<br>79.5<br>81.3<br>78.9<br>81.8<br>82.3<br>83.8<br>85.9<br>90.0<br>97.6<br>97.9<br>98.5<br>101.6<br>102.7 |  |  |
|  |  |  | In   | ELAND.   |   |  |  |  |  |
| 1864<br>1865<br>1866<br>1867<br>1868<br>1869<br>1870<br>1871<br>1872<br>1873<br>1874                         | 26.6<br>28.6<br>30.7<br>30.2<br>30.1<br>30.5<br>33.1<br>32.1<br>32.7<br>33.4<br>33.2                     | 1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882<br>1883<br>1884<br>1885<br>1886<br>1887                 | 32 . 2<br>35 . 4<br>36 . 2<br>33 . 9<br>34 . 1<br>37 . 1<br>36 . 9<br>39 . 7<br>39 . 1<br>39 . 0<br>41 . 4<br>42 . 6 | 1888<br>1889<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899                 | 41.7<br>44.9<br>45.5<br>46.2<br>47.9<br>49.5<br>50.4<br>53.7<br>58.8<br>59.0                                      | 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910                         | 60.8<br>65.1<br>64.5<br>69.0<br>69.4<br>74.9<br>79.2<br>76.2<br>75.7<br>80.0<br>83.7                           |  |  |
|  |  |  | No   | DRWAY.   |   |  |  |  |  |
| 1870<br>1871<br>1872<br>1873<br>1874<br>1875<br>1876<br>1877<br>1878<br>1879<br>1880                         | 27.1<br>27.3<br>27.0<br>34.5<br>31.9<br>34.6<br>34.4<br>37.1<br>37.6<br>41.8                             | 1881<br>1882<br>1883<br>1884<br>1885<br>1886<br>1887<br>1888<br>1889<br>1890                                 | 45.7<br>46.2<br>49.4<br>51.6<br>53.1<br>50.4<br>55.6<br>55.2<br>56.4<br>57.0   | 1891<br>1892<br>1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899<br>1900                                 | 61.3<br>63.7<br>69.7<br>71.4<br>71.2<br>81.1<br>85.4<br>84.2<br>89.1  | 1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910                                 | 95.1<br>91.5<br>93.2<br>96.0<br>98.4<br>97.6<br>100.3<br>97.2<br>95.2  |  |  |
|  |  |  | Ατ   | STRIA.   |   |  |  |  |  |
| 1873<br>1874<br>1875<br>1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882                                 | 33. 0<br>33. 9<br>35. 2<br>36. 4<br>37. 4<br>38. 4<br>40. 7<br>40. 7<br>42. 2<br>42. 7                   | 1883<br>1884<br>1885<br>1886<br>1887<br>1888<br>1889<br>1890<br>1891<br>1892                                 | 44.4<br>45.7<br>47.6<br>48.3<br>47.8<br>49.3<br>51.6<br>52.6<br>54.3<br>57.0   | 1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899<br>1900<br>1901   | 59.0<br>60.8<br>63.7<br>65.8<br>67.9<br>69.4<br>69.9<br>70.9  | 1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910   | 74.2<br>73.7<br>74.9<br>76.2<br>77.9<br>77.3<br>78.0<br>78.7   |  |  |
|  |  |  | Swit   | ZERLAND.   |   |  |  |  |  |
| 1877<br>1878<br>1879<br>1880<br>1881<br>1882<br>1883<br>1884<br>1885   | 78.9<br>82.4<br>86.6<br>90.7<br>99.3<br>99.1<br>101.0<br>103.9<br>106.5                                  | 1886<br>1887<br>1888<br>1889<br>1890<br>1891<br>1892<br>1893<br>1894   | 111.5<br>110.4<br>113.8<br>111.7<br>111.8<br>114.4<br>119.8<br>116.0<br>116.2  | 1895<br>1896<br>1897<br>1898<br>1899<br>1900<br>1901<br>1902   | 122.2<br>120.0<br>123.4<br>123.3<br>122.0<br>125.4<br>127.9<br>125.8  | 1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910   | 129.7<br>128.6<br>127.4<br>129.1<br>122.5<br>128.0<br>126.7<br>123.5   |  |  |

| GERMAN EMPIRE. (a)   |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
| 1892<br>1893<br>1894<br>1895<br>1896                                 | 61.0<br>63.0<br>64.5<br>65.7<br>68.1                                 | 1897<br>1898<br>1899<br>1900<br>1901                                 | 69.3<br>70.4<br>73.7<br>72.1<br>74.7                                 | 1902<br>1903<br>1904<br>1905<br>1906                                 | 75.0<br>77.2<br>79.8<br>80.9<br>81.3                                 | 1907<br>1908<br>1909<br>1910   | 83.2<br>83.7<br>84.5<br>87.9   |  |
|  |  |  | P  | RUSSIA.  |  |  |  |  |
| 1875<br>1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882<br>1883 | 22.9<br>24.2<br>26.5<br>28.2<br>28.8<br>29.9<br>31.1<br>31.9<br>33.8 | 1884<br>1885<br>1886<br>1887<br>1888<br>1889<br>1890<br>1891<br>1892 | 35.3<br>35.8<br>38.3<br>38.1<br>40.9<br>43.5<br>43.3<br>44.7<br>49.6 | 1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899<br>1900<br>1901 | 51.1<br>52.8<br>53.2<br>54.8<br>56.0<br>56.3<br>59.3<br>59.6<br>61.7 | 1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910 | 61.9<br>65.2<br>68.6<br>69.4<br>70.4<br>73.4<br>73.6<br>74.8<br>78.5 |  |
|  |  |  | В  | AVARIA.  |  |  |  |  |
| 1888<br>1889<br>1890<br>1891<br>1892<br>1893                         | 79.4<br>81.6<br>81.0<br>88.7<br>85.0<br>90.0                         | 1894<br>1895<br>1896<br>1897<br>1898<br>1899                         | 92.6<br>94.9<br>95.3<br>96.9<br>97.3<br>101.9                        | 1900<br>1901<br>1902<br>1903<br>1904<br>1905                         | 99.3<br>102.9<br>103.4<br>107.4<br>110.2<br>108.9                    | 1906<br>1907<br>1908<br>1909<br>1910                                 | 110.5<br>106.8<br>108.2<br>109.7<br>114.2                            |  |
|  |  |  | Saz  | kony. (b)  |  |  |  |  |
| 1892<br>1893<br>1894<br>1895<br>1896                                 | 85.7<br>85.7<br>89.1<br>89.5<br>93.2                                 | 1897<br>1898<br>1899<br>1900<br>1901                                 | 95.2<br>91.2<br>94.8<br>93.6<br>97.4                                 | 1902<br>1903<br>1904<br>1905<br>1906                                 | 97.0<br>91.0<br>88.2<br>91.6<br>93.8                                 | 1907<br>1908<br>1909<br>1910   | 97.3<br>94.3<br>93.9<br>93.9   |  |
|  |  |  | Wu   | RTEMBERG.  |  |  |  |  |
| 1892<br>1893<br>1894<br>1895<br>1896                                 | 71.4<br>71.4<br>70.7<br>75.2<br>82.1                                 | 1897<br>1898<br>1899<br>1900<br>1901                                 | 80.0<br>95.0<br>94.0<br>94.0<br>94.4                                 | 1902<br>1903<br>1904<br>1905<br>1906                                 | 97.4<br>98.4<br>98.7<br>104.2<br>99.3                                | 1907<br>1908<br>1909<br>1910   | 102.8<br>102.9<br>105.5<br>107.3                                     |  |
|  |  |  | Н  | OLLAND.  |  |  | -  |  |

(a) Figures include about 94 per cent: of the population. For details see notes in March, I and II. (b) For figures running back to 1873 see Zeitschr. d. k. Säch. Stat. Landesamtes 1905, p. 263.

1893

1899

1900

1901

61.6 66.0 67.0 65.3 69.5 75.3 73.4 79.4 79.9

1908 1909

1910

95.0 98.9 97.9 101.2 100.7 101.8 102.8 102.6 106.4

80.8 81.0 85.4 88.5 90.4 93.0 96.0 91.8 93.7

1890

1891

1892

47.9 48.5 50.2 51.1 52.5 54.4 57.6 58.4 58.0

1881 1882

1883

# SPAIN.

| 1900<br>1901<br>1902   | $39.3 \\ 42.4 \\ 43.3$   | 1903<br>1904<br>1905   | 44.1<br>46.6<br>45.8   | 1906<br>1907<br>1908   | 47.6<br>47.5<br>51.4   | 1909<br>1910   | 51.0<br>52.3   |  |  |
|--|--|--|--|--|--|--|--|--|--|
| ITALY.   |  |  |  |  |  |  |  |  |  |
| 1887<br>1888<br>1889<br>1890<br>1891<br>1892   | 42.7<br>42.3<br>43.0<br>42.7<br>43.0<br>42.6   | 1893<br>1894<br>1895<br>1896<br>1897<br>1898   | 42.9<br>44.5<br>48.2<br>49.1<br>50.3<br>51.1   | 1899<br>1900<br>1901<br>1902<br>1903<br>1904   | 51.9<br>52.2<br>52.7<br>53.9<br>53.8<br>57.1   | 1905<br>1906<br>1907<br>1908<br>1909<br>1910   | 58.3<br>62.0<br>61.7<br>64.5<br>64.2<br>65.6   |  |  |
|  |  |  | Sı   | ERBIA.   |  |  |  |  |  |
| 1895<br>1896<br>1897<br>1898   | 5.5<br>6.6<br>7.0<br>7.4   | 1899<br>1900<br>1901<br>1902   | 9.5<br>9.5<br>9.1<br>9.6   | 1903<br>1904<br>1905<br>1906   | 9.1<br>10.3<br>10.4<br>10.6  | 1907<br>1908<br>1909<br>1910   | 13.3<br>12.6<br>13.1<br>12.8   |  |  |
|  |  |  | New So   | UTH WALES  |  |  |  |  |  |
| 1875<br>1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882<br>1883                         | 30.9<br>27.5<br>26.6<br>29.0<br>24.7<br>32.8<br>28.2<br>26.9<br>25.7                         | 1884<br>1885<br>1886<br>1887<br>1888<br>1889<br>1890<br>1891<br>1892                 | 26.4<br>28.8<br>34.4<br>35.2<br>39.0<br>36.9<br>35.6<br>45.2<br>43.3                 | 1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899<br>1900<br>1901                         | 40.7<br>42.1<br>44.4<br>48.9<br>53.3<br>54.4<br>57.1<br>56.5<br>61.7                         | 1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910                 | 62.3<br>65.4<br>66.0<br>65.3<br>69.0<br>70.8<br>67.5<br>72.5<br>71.7                 |  |  |
|  |  |  | Vio  | TORIA.   |  |  |  |  |  |
| 1864<br>1865<br>1866<br>1867<br>1868<br>1869<br>1870<br>1871<br>1872<br>1873<br>1874<br>1875 | 21.7<br>24.7<br>18.4<br>18.6<br>27.6<br>26.8<br>30.0<br>26.2<br>30.0<br>32.6<br>34.5<br>39.1 | 1876<br>1877<br>1878<br>1879<br>1880<br>1881<br>1882<br>1883<br>1884<br>1885<br>1886 | 38.0<br>40.7<br>38.3<br>45.9<br>45.1<br>40.4<br>41.9<br>49.5<br>46.5<br>50.4<br>51.8 | 1888<br>1889<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895<br>1896<br>1897<br>1898<br>1899 | 49.4<br>57.7<br>56.0<br>60.9<br>58.8<br>62.6<br>63.1<br>64.2<br>66.7<br>65.5<br>73.1<br>71.0 | 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910 | 68.5<br>73.4<br>70.4<br>76.1<br>73.9<br>78.6<br>75.5<br>82.1<br>81.8<br>82.6<br>82.5 |  |  |
|  | 1  |  | Ques   | INSLAND.   |  |  |  |  |  |
| 1880<br>1881<br>1882<br>1883<br>1884<br>1885<br>1886<br>1887                                 | 23.0<br>29.4<br>22.7<br>26.1<br>31.4<br>16.7<br>27.6<br>22.8                                 | 1888<br>1889<br>1890<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895                 | 23.3<br>32.7<br>28.2<br>33.1<br>31.3<br>28.3<br>35.8<br>41.7                         | 1896<br>1897<br>1898<br>1899<br>1900<br>1901<br>1902<br>1903                                 | 39.3<br>39.1<br>46.5<br>47.8<br>47.7<br>55.0<br>49.1   | 1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910                                 | 57.2<br>66.7<br>54.7<br>66.4<br>61.0<br>60.7<br>67.3                                 |  |  |

#### SOUTH AUSTRALIA.

|  |  |  | 50011  | TIUBIIKALIA.   |  |  |  |
|--|--|--|--|--|--|--|--|
| 1880<br>1881<br>1882<br>1883<br>1884<br>1885<br>1886<br>1887 | 28.1<br>32.6<br>31.0<br>29.2<br>35.9<br>32.8<br>34.1<br>36.0 | 1888<br>1889<br>1890<br>1891<br>1891<br>1892<br>1893<br>1894<br>1895 | 37.8<br>43.1<br>41.4<br>49.1<br>45.5<br>50.9<br>47.0<br>47.4 | 1896<br>1897<br>1898<br>1899<br>1900<br>1901<br>1902<br>1903 | 52.5<br>51.8<br>51.1<br>57.0<br>59.8<br>60.5<br>75.0<br>73.5 | 1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910 | 63.4<br>69.2<br>76.9<br>74.5<br>73.6<br>80.0<br>80.7 |
|  |  |  | West   | Australia.   |  |  |  |
| 1895<br>1896<br>1897<br>1898                                 | 27.2<br>25.2<br>34.0<br>33.3                                 | 1899<br>1900<br>1901<br>1902   | 35.5<br>29.7<br>44.4<br>41.3                                 | 1903<br>1904<br>1905<br>1906                                 | 41.6<br>44.3<br>50.8<br>59.2                                 | 1907<br>1908<br>1909<br>1910                         | 50.0<br>54.3<br>68.0<br>49.5                         |
|  |  |  | T  | ASMANIA.   |  |  |  |
| 1895<br>1896<br>1897<br>1898                                 | 48.7<br>60.1<br>50.0<br>59.3                                 | 1899<br>1900<br>1901<br>1902   | 53.2<br>53.8<br>54.6<br>61.9                                 | 1903<br>1904<br>1905<br>1906                                 | 56.2<br>52.0<br>54.2<br>51.9                                 | 1907<br>1908<br>1909<br>1910                         | 62.9<br>67.6<br>67.4<br>66.5                         |
|  |  |  | New 2  | ZEALAND.   |  |  |  |
| 1880<br>1881<br>1882<br>1883<br>1884<br>1885<br>1886<br>1887 | 28.1<br>27.2<br>28.9<br>29.9<br>34.5<br>31.1<br>36.8<br>39.9 | 1888<br>1889<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895         | 43.5<br>42.5<br>47.5<br>46.8<br>47.8<br>50.2<br>60.1<br>55.4 | 1896<br>1897<br>1898<br>1899<br>1900<br>1901<br>1902<br>1903 | 55.1<br>54.7<br>64.0<br>62.4<br>56.3<br>66.2<br>67.2<br>71.0 | 1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910 | 67.6<br>65.1<br>69.5<br>73.5<br>70.8<br>74.1<br>76.1 |

## TABLE XXI. (a)

# PROPORTION OF TOTAL DEATHS OCCURRING IN HOSPITALS, NEW YORK CITY, 1898-1915.

| Year.  | Total Deaths.  | Deaths in Hospitals.   | Per Cent. Occurring in<br>Hospitals.   |
|--|--|--|--|
| 1898<br>1899<br>1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910<br>1911<br>1912<br>1913<br>1914 | 66,294<br>65,343<br>70,872<br>70,720<br>68,112<br>67,864<br>78,060<br>73,714<br>76,203<br>79,205<br>73,072<br>74,105<br>76,742<br>75,423<br>73,008<br>73,902<br>74,803<br>76,193 | 10,799<br>11,749<br>12,609<br>13,343<br>12,613<br>14,695<br>17,138<br>18,103<br>19,163<br>21,444<br>20,684<br>21,451<br>22,631<br>23,466<br>22,198<br>22,788<br>23,823<br>25,095 | 16.3<br>18.0<br>17.8<br>18.9<br>18.5<br>21.6<br>22.0<br>24.6<br>25.1<br>27.1<br>28.3<br>28.9<br>29.5<br>31.1<br>30.4<br>30.8<br>31.8<br>32.9 |

<sup>(</sup>a) Figures kindly furnished the writer by the Bureau of Records, New York City. Hospitals, as here used, include only those institutions "which individuals enter direct from their homes," and not those "of which decedents were residents at the time of death."

TABLE XXII. (a)

PROPORTION OF DEATHS IN HOSPITALS TO TOTAL DEATHS, FORMER CITY OF NEW YORK, 1889-1897.

| Year.  | Total Deaths.  | Deaths in Hospitals.  | Per Cent. of Deaths<br>Occurring in Hospitals.               |
|--|--|---|--|
| 1889<br>1890<br>1891<br>1892<br>1893<br>1894<br>1895<br>1896 | 39,583<br>40,103<br>43,659<br>44,329<br>44,486<br>41,175<br>43,420<br>41,622<br>38,857 | 6,102<br>6,310<br>6,948<br>7,681<br>8,306<br>7,742<br>8,091<br>8,530<br>8,534 | 15.4<br>15.7<br>15.9<br>17.3<br>18.7<br>18.8<br>20.4<br>22.0 |

(a) Data derived from the successive Annual Reports of the New York City Department of Health.

TABLE XXIII. (a)

HOSPITAL BEDS TO 100,000 POPULATION, GERMAN EMPIRE, 1877-1910.

| Year.  | Hospital Beds per 100,000 Population.                              | Year.  | Hospital Beds per<br>100,000 Population.                    |
|--|--|--|---|
| 1877<br>1879<br>1882<br>1885<br>1888<br>1891<br>1894<br>1897<br>1900<br>1901 | 166<br>175<br>182<br>201<br>224<br>246<br>266<br>273<br>295<br>310 | 1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909 | 325<br>335<br>345<br>346<br>364<br>376<br>382<br>391<br>400 |

(a) Computed from Stat. Jahrb. für d. D. Reich, XXXVI (1915), population p. 2; hospital statistics p. 446.

TABLE XXIV.

PROPORTION OF DEATHS FROM CANCER AND FROM TUMOR TO DEATHS FROM BOTH CAUSES, UNITED STATES, 1880-1914.

|                      |                            | Deaths from                |                         |                      |                      |
|----------------------|----------------------------|----------------------------|-------------------------|----------------------|----------------------|
| Year.                | Cancer and<br>Tumor.       | Cancer.                    | Tumor.                  | Per Cent.<br>Cancer. | Per Cent.<br>Tumor.  |
|                      | Uı                         | NITED STATES (F            | Intire Area).           |                      |                      |
| 1880<br>1890<br>1900 | 14,849<br>20,984<br>32,902 | 13,068<br>18,536<br>29,475 | 1,781<br>2,448<br>3,427 | 88.0<br>88.3<br>89.6 | 12.0<br>11.7<br>10.4 |

### United States (Registration Area). (a)

| 1900<br>1901<br>1902<br>1903<br>1904 | 19,962<br>20,676<br>21,306<br>22,856<br>23,839            | 19,381<br>20,171<br>20,847<br>22,325<br>23,395<br>106,119 | 581<br>505<br>459<br>531<br>444<br>2,520 | 97.1<br>97.5<br>97.8<br>97.7<br>98.1 | 2.9<br>2.5<br>2.2<br>2.3<br>1.9 |
|--------------------------------------|---|---|--|--------------------------------------|---------------------------------|
| 1905<br>1906<br>1907<br>1908<br>1909 | 24,831<br>29,490<br>31,022<br>33,923<br>38,020<br>157,286 | 24,330<br>29,020<br>30,514<br>33,465<br>37,562<br>154,891 | 501<br>470<br>508<br>458<br>458<br>2,395 | 98.0<br>98.4<br>98.4<br>98.6<br>98.8 | 2.0<br>1.6<br>1.6<br>1.4<br>1.2 |
| 1910<br>1911<br>1912<br>1913<br>1914 | 41,592<br>44,479<br>46,908<br>50,225<br>52,756<br>235,960 | 41,039<br>44,024<br>46,531<br>49,928<br>52,420<br>233,942 | 553<br>455<br>377<br>297<br>336<br>2,018 | 98.7<br>99.0<br>99.2<br>99.4<br>99.4 | 1.3<br>1.0<br>0.8<br>0.6<br>0.6 |

<sup>(</sup>a) See comments, pp. 734-735.

TABLE XXV. (a)

# DEATH RATES FROM CANCER AND FROM TUMOR IN THE REGISTRATION STATES OF 1900, FOR THE YEARS 1900-1915.

| Year.  | Population.  | ]  | Deaths from  | ı  |  | ath Rate<br>100 Popula   |  | Per<br>Cent. of<br>Deaths  |
|--|--|--|--|--|--|--|--|--|
|  |  | Cancer.  | Tumor.   | Both.  | Cancer.  | Tumor.   | Both.  | from<br>Cancer.  |
| 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910<br>1911<br>1912<br>1913<br>1914<br>1915 | 19,995,212<br>20,408,866<br>20,822,520<br>21,236,174<br>21,649,829<br>22,063,484<br>22,477,139<br>22,890,794<br>23,718,104<br>24,131,759<br>24,545,413<br>24,959,067<br>25,372,721<br>25,786,376<br>26,200,032 | 12,769<br>13,438<br>13,653<br>14,650<br>15,247<br>15,983<br>16,426<br>17,324<br>17,896<br>18,830<br>20,024<br>20,596<br>21,451<br>22,497<br>22,967<br>24,061 | 394<br>332<br>287<br>355<br>294<br>318<br>284<br>278<br>229<br>227<br>294<br>203<br>169<br>119<br>144<br>138 | 13,163<br>13,770<br>13,940<br>15,005<br>15,541<br>16,301<br>16,710<br>17,602<br>18,125<br>19,057<br>20,318<br>20,799<br>21,620<br>22,616<br>23,111<br>24,199 | 63.9<br>65.8<br>65.6<br>69.0<br>70.4<br>72.4<br>73.1<br>75.7<br>76.8<br>79.4<br>83.9<br>85.9<br>88.9<br>89.1<br>91.8 | 2.0<br>1.6<br>1.4<br>1.7<br>1.4<br>1.3<br>1.2<br>1.0<br>1.0<br>1.2<br>0.8<br>0.7<br>0.6<br>0.5 | 65.9<br>67.4<br>67,0<br>70.7<br>71.8<br>73.8<br>74.4<br>76.9<br>77.8<br>80.4<br>84.2<br>84.7<br>86.6<br>89.7<br>92.3 | 97.0<br>97.6<br>97.6<br>98.1<br>98.1<br>98.3<br>98.5<br>98.7<br>98.6<br>99.1<br>99.2<br>99.4 |

<sup>(</sup>a) Population, deaths and death rates from cancer kindly furnished the writer in manuscript by the Bureau of the Census; figures for tumor compiled from successive volumes of  $Mortality \, Statistics$ .

TABLE XXVI. (a)

ĎEATH RATES FROM CANCER AND FROM TUMOR, MASSACHUSETTS, BY QUIN-QUENNIAL PERIODS, 1853-1912.

| Period.  | Mid-period<br>Census   |  | ge Annual<br>f Deaths f  |  | Dea<br>100,0   | ath Rates<br>000 Popula   | per<br>ition.  | Per<br>Cent. of<br>Deaths  |
|--|--|--|--|--|--|---|--|--|
|  | Population.  | Cancer.  | Tumor.   | Both.  | Cancer.  | Tumor.  | Both.  | from<br>Cancer.  |
| 1853-1857<br>1858-1862<br>1863-1867<br>1868-1872<br>1873-1877<br>1878-1882<br>1883-1887<br>1888-1892<br>1893-1897<br>1898-1902<br>1903-1907<br>1908-1912 | 1,132,369<br>1,231,066<br>1,267,031<br>1,457,351<br>1,651,912<br>1,783,085<br>1,942,141<br>2,238,943<br>2,500,183<br>2,805,346<br>3,003,680<br>3,366,416 | 219<br>317<br>376<br>509<br>618<br>907<br>1,090<br>1,357<br>1,677<br>1,993<br>2,502<br>3,039 | 60<br>61<br>67<br>84<br>90<br>68<br>64<br>70<br>95<br>85<br>76<br>42 | 279<br>378<br>443<br>593<br>708<br>975<br>1,154<br>1,427<br>1,772<br>2,078<br>2,578<br>3,081 | 19.3<br>25.8<br>29.7<br>34.9<br>37.4<br>50.8<br>56.1<br>60.6<br>67.1<br>71.0<br>83.3<br>90.2 | 5.3<br>4.9<br>5.3<br>5.8<br>5.4<br>3.8<br>3.3<br>3.1<br>3.8<br>3.0<br>2.5 | 24.6<br>30.7<br>35.0<br>40.7<br>42.8<br>54.6<br>59.4<br>63.7<br>70.9<br>74.0<br>85.8<br>91.4 | 78.5<br>83.9<br>84.9<br>85.8<br>87.3<br>93.0<br>94.5<br>95.1<br>94.6<br>96.0<br>97.1<br>98.6 |

<sup>(</sup>a) Population from federal and state censuses; deaths from cancer and tumor from successive state Registration Reports.

TABLE XXVII. (a)

DEATH RATES FROM OLD AGE IN THE REGISTRATION STATES OF 1900, FOR THE YEARS 1900-1915.

| Year.  | Population.   | Deaths from Old Age.  | Death Rates from Old<br>Age per 100,000<br>Population.   |
|--|---|---|--|
| 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910<br>1911<br>1912<br>1913<br>1914<br>1915 | 19,995,212 20,408,866 20,822,520 21,236,174 21,649,829 22,063,484 22,477,139 22,890,794 23,304,449 23,718,104 24,131,759 24,545,413 24,959,067 25,372,721 25,786,376 26,200,032 | 10,015<br>9,771<br>9,309<br>8,604<br>8,702<br>8,251<br>8,432<br>7,614<br>6,943<br>6,472<br>6,321<br>6,070<br>6,426<br>5,795<br>4,901<br>4,380 | 50.1<br>47.9<br>44.7<br>40.5<br>40.2<br>37.4<br>37.5<br>33.3<br>29.8<br>27.3<br>26.2<br>24.7<br>25.8<br>22.8<br>19.0 |

<sup>(</sup>a) Population figures from manuscript table kindly furnished by the Bureau of the Census; deaths from old age from the successive volumes of  $Mortality\ Statistics$ .

TABLE XXVIII. (a)

DEATH RATE FROM CANCER IN CITIES AND RURAL DISTRICTS OF THE REGIS-TRATION STATES OF 1900, FOR YEARS 1900-1915.

| Year.  | Popul  | ation.  | Deaths from Cancer.  |   | Death Rate per 100,000<br>Population.  |  |
|--|--|---|--|---|--|--|
|  | Cities.  | Rural<br>Districts.   | Cities.  | Rural<br>Districts.   | Cities.  | Rural.<br>Districts.   |
| 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910<br>1911<br>1912 | 10,690,666<br>11,105,137<br>11,519,608<br>11,934,080<br>12,348,553<br>12,763,026<br>13,177,499<br>13,591,972<br>14,006,445<br>14,420,918<br>14,838,879<br>15,202,813<br>15,565,218 | 9,304,546<br>9,303,729<br>9,302,912<br>9,302,094<br>9,301,276<br>9,300,458<br>9,299,640<br>9,298,822<br>9,298,004<br>9,297,186<br>9,292,880<br>9,342,660<br>9,393,849 | 7,060<br>7,717<br>7,844<br>8,498<br>8,892<br>9,323<br>10,065<br>10,544<br>10,809<br>11,530<br>12,302<br>12,760<br>13,437 | 5,709<br>5,721<br>5,809<br>6,152<br>6,355<br>6,660<br>6,361<br>6,780<br>7,087<br>7,300<br>7,722<br>7,836<br>8,014 | 66.0<br>69.5<br>68.1<br>71.2<br>72.0<br>73.0<br>76.4<br>77.6<br>80.0<br>82.9<br>83.9<br>86.3 | 61.4<br>61.5<br>62.4<br>66.1<br>68.3<br>71.6<br>68.4<br>72.9<br>76.2<br>78.5<br>83.1<br>83.9<br>85.3 |
| 1913<br>1914<br>1915   | 15,927,982<br>16,294,421<br>16,662,676   | 9,444,739<br>9,491,955<br>9,537,356   | 14,042<br>14,546<br>15,208   | 8,455<br>8,421<br>8,853   | 88.2<br>89.3<br>91.3   | 89.5<br>88.7<br>92.8   |

<sup>(</sup>a) Data kindly furnished the writer in manuscript by the Bureau of the Census.

TABLE XXIX. (a)

DEATH RATES FROM CANCER IN CERTAIN EUROPEAN COUNTRIES CLASSIFIED BY CITY AND REST OF COUNTRY.

| Year.                        | Popula   | ation.   | Deaths from Cancer.              |                                      | Death Rates from Cancer<br>per 100,000 Population. |                              |
|------------------------------|--|--|----------------------------------|--------------------------------------|--|------------------------------|
|                              | Urban.   | Rest of<br>Country.                                  | Urban.                           | Rest of<br>Country.                  | Urban.   | Rest of Country.             |
|                              |  | Englani  | D AND WALES                      | . (b)                                |  |                              |
| 1881<br>1891<br>1901<br>1909 | 5,058,823<br>5,546,621<br>6,141,048<br>6,222,293 | 20,987,319<br>23,539,198<br>26,471,086<br>29,205,379 | 2,898<br>4,217<br>5,553<br>6,687 | 10,644<br>15,900<br>21,934<br>27,366 | 57.3<br>76.0<br>90.4<br>107.5                      | 50.7<br>67.5<br>82.9<br>93.7 |
|                              |  | Sc   | COTLAND. (c)                     |                                      |  |                              |
| 1881<br>1891<br>1901<br>1909 | 740,890<br>829,394<br>1,092,515<br>1,102,996     | 3,001,674<br>3,206,851<br>3,386,550<br>3,604,862     | 424<br>584<br>864<br>1,213       | 1,490<br>2,119<br>2,798<br>3,569     | 57.2<br>70.4<br>79.1<br>110.0                      | 49.6<br>66.1<br>82.6<br>99.0 |

<sup>(</sup>a) Data from Hoffman, supplemented by material from Falkenburg and March.
(b) Cities are Birmingham, Bradford, Derby, Liverpool and London.
(c) Cities are Edinburg and Glasgow.

Norway. (d)

| 1881 | 120,722   | 1,793,278  | 105           | 769    | 87.0  | 42.9  |
|------|-----------|------------|---------------|--------|-------|-------|
| 1891 | 153,887   | 1,842,113  | 147           | 1,077  | 95.5  | 58.5  |
| 1901 | 228,336   | 2,006,664  | 222           | 1,904  | 97.2  | 94.9  |
| 1909 | 239,704   | 2,098,296  | 239           | 1,987  | 99.7  | 94.7  |
|      |           | Nетн       | ierlands. (e) |        |       |       |
| 1881 | 683,889   | 3,403,445  | 475           | 1,878  | 69.5  | 55.2  |
| 1891 | 890,776   | 3,702,379  | 743           | 2,905  | 83.4  | 78.5  |
| 1901 | 1,193,689 | 4,023,554  | 1,104         | 3,790  | 92.5  | 94.2  |
| 1909 | 1,366,862 | 4,453,613  | 1,385         | 4,627  | 101.3 | 103.9 |
|      |           | Ατ         | USTRIA. (f)   |        |       |       |
| 1881 | 976,535   | 21,232,465 | 1,162         | 8,202  | 119.0 | 38.6  |
| 1891 | 1,683,096 | 22,312,904 | 2,018         | 11,009 | 119.9 | 49.3  |
| 1901 | 2,065,344 | 24,113,412 | 2,462         | 16,692 | 119.2 | 69.2  |
| 1908 | 2,416,104 | 25,427,421 | 3,207         | 18,973 | 132.7 | 74.6  |

TABLE XXX. (a)

DEATH RATES FROM CANCER, CLASSIFIED BY COLOR OF DECEDENT, IN THE REGISTRATION STATES OF 1910, FOR THE YEARS 1910-1915.

| Year.  | Population.  | Deaths from Cancer.                                      | Death Rate from<br>Cancer per 100,000<br>Population. |
|--|--|--|--|
|  | Т  | OTAL   |  |
| 1910<br>1911<br>1912<br>1913<br>1914<br>1915 | 47,807,766<br>48,756,771<br>49,595,220<br>50,493,332<br>51,455,677<br>52,357,716 | 36,364<br>37,269<br>39,279<br>41,430<br>42,706<br>44,440 | 76.1<br>76.4<br>79.2<br>82.1<br>83.0<br>84.9         |
|  | W  | HITE.  |  |
| 1910<br>1911<br>1912<br>1913<br>1914<br>1915 | 1911 47,344,587<br>1912 48,153,883<br>1913 49,025,379<br>1914 49,941,006         |  | 76.8<br>77.0<br>79.8<br>82.6<br>83.5<br>85.4         |
|  | Co   | LORED.   |  |
| 1910<br>1911<br>1912<br>1913<br>1914<br>1915 | 1,382,106<br>1,412,184<br>1,441,337<br>1,467,953<br>1,514,671<br>1,511,757       | 726<br>837<br>855<br>940<br>990<br>1,040                 | 52.6<br>59.3<br>59.3<br>64.0<br>65.4<br>68.8         |

<sup>(</sup>a) Figures for 1910–1913 from a manuscript table kindly furnished the writer by the Bureau of the Census.

<sup>(</sup>d) City is Christian.
(e) Cities are Amsterdam, the Hague, Rotterdam and Utrecht.
(f) Cities are Prague and Vienna.

TABLE XXXI. (a)

DEATH RATES FROM CANCER CLASSIFIED BY SEX AND AGE, AND RATE OF DECENNIAL INCREASE, REGISTRATION STATES OF 1900, FOR 1900 AND 1910.

|  |  | Males.  |                                 |  | Females.   |                                  |  |
|--|--|---|---------------------------------|--|--|----------------------------------|--|
| Age.   | Death Rate fr<br>100,000 Po                    | om Cancer per<br>pulation.                      | Rate of Increase                | Death Rate from Cancer per 100,000 Population.   |  | Rate of<br>Increase              |  |
| 1900.  | 1900.  | 1910.   | 1900–1910.                      | 1900.  | 1910.  | 1900-1910.                       |  |
| 25-34<br>35-44<br>45-54<br>55-64<br>65-74<br>75+ | 9.1<br>28.1<br>83.5<br>189.3<br>377.4<br>516.9 | 9.5<br>33.0<br>106.7<br>272.0<br>493.6<br>693.7 | 4<br>17<br>28<br>44<br>31<br>34 | 18.9<br>78.8<br>196.6<br>330.5<br>461.6<br>609.1 | 21.9<br>88.9<br>230.7<br>411.3<br>616.2<br>867.8 | 16<br>13<br>17<br>24<br>33<br>42 |  |

<sup>(</sup>a) From a manuscript table kindly furnished the writer by the Bureau of the Census.

TABLE XXXII. (a)

DEATH RATES FROM CANCER PER 100,000 POPULATION CLASSIFIED BY SEX AND AGE, MASSACHUSETTS, 1860-1910.

| Age Period.                                      | 1860.  | 1870.  | 1880.   | 1890.   | 1900.   | 1910.   |
|--|--|--|---|---|---|---|
|  |  |  | Males.  |   |   |   |
| 30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 6.6<br>20.4<br>63.4<br>105.7<br>166.6<br>349.7   | 6.9<br>27.5<br>83.4<br>154.2<br>267.2<br>354.8   | 11.9<br>39.0<br>99.7<br>168.7<br>408.3<br>491.1   | 7.1<br>29.3<br>118.2<br>267.1<br>332.8<br>331.7   | 16.9<br>62.5<br>145.6<br>277.6<br>497.1<br>655.4  | 17.9<br>61.4<br>161.6<br>415.9<br>658.4<br>955.1  |
| Females.   |  |  |   |   |   |   |
| 30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 17.1<br>79.5<br>145.2<br>162.0<br>202.5<br>341.4 | 23.0<br>84.8<br>139.7<br>216.9<br>254.8<br>379.4 | 46.3<br>116.0<br>219.4<br>282.7<br>371.9<br>320.2 | 45.5<br>138.2<br>261.8<br>387.6<br>527.3<br>438.2 | 38.1<br>149.2<br>284.5<br>451.4<br>555.2<br>680.1 | 48.5<br>160.5<br>317.9<br>558.5<br>817.7<br>861.4 |

# American Statistical Association.

### PER CENT. OF DECENNIAL INCREASE IN DEATH RATE.

| Age Period.                                      | 1860-1870.                                      | 1870–1880.   | 1880-1890.   | 1890-1900.                                    | 1900–1910.                                      |
|--|---|--|--|---|---|
|  |   | Mal  | ES.  |   |   |
| 30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 4.5<br>4.2<br>31.5<br>45.9<br>60.4<br>1.5       | 72.5<br>41.8<br>19.5<br>9.4<br>52.8<br>38.4        | -40.3 (b)<br>-24.9 (b)<br>18.6<br>58.3<br>-18.5 (b)<br>-32.5 (b) | 138.0<br>113.3<br>23.2<br>3.9<br>49.4<br>97.6 | 5.9<br>-1.8 (b)<br>11.0<br>49.8<br>32.5<br>45.7 |
|  |   | Fema   | LES.   |   |   |
| 30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | 34.5<br>6.7<br>-3.8 (b)<br>33.9<br>25.8<br>11.1 | 101.3<br>36.8<br>57.1<br>30.3<br>46.0<br>-15.6 (b) | -1.7 (b) 19.1 19.3 37.1 41.8 36.8                                | -16.3 (b) 8.0 8.7 16.5 5.3 55.2               | 27.3<br>7.6<br>11.7<br>23.7<br>47.3<br>26.7     |

<sup>(</sup>a) Population figures used in computing these rates are those of the Federal censuses; deaths, those in the successive Massachusetts Registration Reports.

(b) Decrease.

TABLE XXXIII. (a)

DEATH RATE FROM APPENDICITIS IN THE REGISTRATION STATES OF 1900, FOR THE YEARS 1900-1915.

| Year.  | Population.  | Deaths from<br>Appendicitis.   | Death-Rate per 100,000<br>Population.   |
|--|--|--|---|
| 1900<br>1901<br>1902<br>1903<br>1904<br>1905<br>1906<br>1907<br>1908<br>1909<br>1910<br>1911<br>1912<br>1913<br>1914 | 19,995,212<br>20,408,866<br>20,822,520<br>21,236,174<br>21,649,829<br>22,063,484<br>22,477,139<br>22,890,794<br>23,304,449<br>23,718,104<br>24,131,759<br>24,545,413<br>24,959,067<br>25,372,721<br>25,786,376<br>26,200,032 | 1,763<br>1,794<br>1,825<br>2,031<br>2,224<br>2,256<br>2,318<br>2,326<br>2,396<br>2,550<br>2,685<br>2,783<br>2,743<br>2,940<br>3,149<br>3,221 | 8.8<br>8.8<br>9.6<br>10.3<br>10.2<br>10.3<br>10.2<br>10.3<br>10.8<br>11.1<br>11.3<br>11.0<br>11.6<br>12.2<br>12.3 |

<sup>(</sup>a) Data kindly furnished the writer in manuscript by the Bureau of the Census.